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INDIA AND THE INDIAN OCEAN

COMMANDER V. KOITHARA, IN

"Nations go to war not because they love peace the less, but because they love their own kind of peace the more"

INTRODUCTION

INDIA post-independence defence posture has essentially been a reaction to Pakistan's unremitting hostility and China's hegemonial aspirations. The immediacy of the territorial disputes with these two nations had limited our security horizon to the land frontiers and prevented us from exercising any significant influence in the vast oceanic area to the south, where geography had placed us in a pivotal position. The relatively quiescent and tension-free atmosphere of the area in the past also contributed to our northernly fixation.

Things are, however, changing now. Soviet naval presence in the Indian ocean has been steadily increasing since the late sixties. Their goals in the area are long term and they pin their hopes on what they consider to be the fertile revolutionary conditions of the littoral states. Soviet incursions into what had hitherto been a Western bailiwick has inevitably triggered off American response and this has recently registered a quantum jump because of the burgeoning energy crisis and the resultant rise on a Gulf's strategic temperature. The American decision to pour in sophisticated weaponry into the hands of their friends in the area, has added an additional explosive element.

In these circumstances failure on India's part to play a dynamic maritime role commensurate with her size and geography can do grievous harm. It would foreclose many of our foreign policy options and result in a petrified security posture totally unsuited to the fluid contemporary times. The speed and decisiveness displayed by India during 1971 Indo-Pak hostilities has regained for her some of the influence and initiative which had been lost as a result of the 1962 debacle. It is for the nation to take advantage of these turn of events by presenting to the world the image of a vigorous and resurgent India. Since blue water separates India from most of her neighbours, a high maritime profile is perhaps the best way of achieving this objective.

* Article was written in Dec. 73.

Soviet naval activity in the area. The United States, Britain and France, among them, have access to at least twenty bases in and around the Indian Ocean. In addition a large number of the littoral nations namely Australia, *Thailand*, Iran, the Gulf Emirates, Kuwait, Oman, Saudi Arabia, Israel, Mozambique and South Africa are decidedly pro-western.

The Americans already had two huge communication facilities in the area, the Harold Holt station in North Cape, Australia and the Kagnew station near Asmara, Ethiopia. To bridge the gap between these two they have commissioned in May 1973 a 19 million dollar facility at Diego Garcia in Chagos islands. But Diego Garcia has the potential to be much more than a communication station. A horseshoe shaped coral atoll stretching 38 miles from end to end, it has a 13 mile long and 7 mile wide lagoon in the middle. Some dredging and blasting of coral reef can provide an excellent harbour capable of taking the largest of warships. Located almost in the precise geographic centre of the Indian Ocean and free of anti-colonial natives, there could scarcely be better base from an outside power's point of view.

In addition to Diego Garcia the Americans have a naval and air base in Bahrain which gives them a ringside seat with regard to Gulf happenings. Their three ship Indian Ocean force is also home ported there. The smallness of this force often gives a misleading impression of the interventionist capability that the United States possess in the area. The carriers and the support ships of the Seventh Fleet are prowling just beyond the Malacca Straits and as was demonstrated in December 1971 and November 1973 they can be in the Indian Ocean mighty quickly.

Although the British strength in the region has diminished considerably during the last decade, they still have a fair number of enclaves left. Apart from Diego Garcia which is under joint British-US control, they have two staging posts in Masirah (Oman) and Gan (Maldives). They also have access to bases in Malaysia, Singapore, Union of Gulf Emirates, Mauritius and South Africa. French presence in the Indian Ocean is located in French Somaliland, Comoro Island and Malagasy, although in the last named country they are in the process of being ejected.

SOVIET ACTIVITIES

The Russians were the first big power to feel a genuine military threat from the Indian Ocean. This happened in the late sixties when the Americans began to deploy their ballistic missile submarines in the ocean. The Polaris A-3 and Poseidon missiles of these submarines, if fired from north Arabian Sea, have the range to reach vast area of vulnerable Soviet territory. If these Submarines can operate in the Red Sea or the Gulf, their coverage would be even greater. It is estimated that the US Navy has three to four SSBNs regularly on patrol in the Indian Ocean, controlled from their VLF station in North Cape, Australia.

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Making the US SSBNs vulnerable, at least while operating in the Red Sea and the Gulf, has been one of the prime objectives of Soviet naval activity in the region. The other has been to use their naval presence as an augmenting adjunct to their political drive. The Russians have been reasonably successful in attaining both these objectives, but that should not lead one to have an exaggerated idea of the usable power the Soviet Navy possesses in the area.

With the Suez canal closed, the nearest home base they possess is Vladivostok which is nearly three thousand miles away. Unlike the western powers the Soviets have no extra territorial enclaves in the region which they can call their own. It is true that they enjoy some facilities in certain ports of UAR, Iraq, Somaliland and South Yemen, but those are not bases by any stretch of imagination. In fact their lack of logistic facilities have compelled Soviet ships to use anchorages and open sea moorings in international waters for rest, maintenance and replenishment. Some of these open anchorages in the Indian Ocean are located in the shallow waters off Caragodos, Mauritius, Seychelles and Socotra. These logistic handicaps of the Soviets are accentuated by the fact they have no fixed wing carriers in commission. In stark contrast to the ships of the western navies, the Russian ships operating in the area have no air cover at all—not even for reconnaissance and surveillance. Because of these difficulties the real power that the Soviet Navy wields in the region is considerably less than the overblown image projected by western commentators and analysts.

CHINA'S DESIGNS

Because of the relative weakness of her navy, the Chinese have not been able to establish a naval presence in the Indian Ocean. She has, however, close and cordial relationships with several countries in the region particularly Pakistan, Sri Lanka and Tanzania. Over the years she has been trying assiduously to cultivate influence in these nations by pouring economic and military aid. Some of these nations would conceivably offer logistic shore support to Chinese naval vessels once they start operating in the Indian Ocean. The maritime threat posed by China is dealt with in greater detail in the next section.

UNCERTAIN JAPAN

Japan, currently, has no military presence or capability in the Indian Ocean area. Yet the region is of vital economic interest to her. 80% of her oil imports originate at the Gulf and other Indian Ocean countries supply her vast quantities of raw materials like Iron ore, Copper, Chemicals etc. As the present oil cut backs have demonstrated any interruption of these supplies can have calamitous consequences for Japan.

Till recently Japan had deliberately followed a policy of military powerlessness partly for reasons of domestic public sentiment and partly for fear

of frightening Asian neighbours who still remember Japan's imperialistic power play of the thirties. American willingness to keep Japan under her security umbrella in return for base facilities suited both nations admirably. But the phenomenal economic growth of Japan which has brought her to direct conflict of interests with US over markets and resources as well as the US decision to mend fences with China have caused serious reverberations to Japan's strategic equipoise. The divergence of interests of the two countries as spot lighted by their respective response to Arab oil sanctions makes it inevitable that Japan would have to soon chart her own path of security.

If Japan decides to raise her military profile, there is little doubt that the Indian Ocean would be one of the most affected regions. This is because the area is more important to Japan than it is to any other great power. The recent newspaper reports to Arab request for Japanese arms technology and Japan's inclination to favourably consider it are indicators of the shape of things to come.

THE LITTORAL COUNTRIES

There are thirty six nations in and around the Indian Ocean. But the only significant naval powers among them, besides India, are Australia, Indonesia, Pakistan, Iran, Israel, Egypt and South Africa. Among these the Australian Navy is undoubtedly the strongest, but because of her cultural and ethnic identity with the west it would be safe to treat her as part of the western power structure of the area. The South African Navy is also a well trained and well equipped force, but its effectiveness is little because of the international ostracization of that country. Israel and Egypt are not very important in the Indian Ocean context as their naval strengths are primarily located in the Mediterranean. With opening of the Suez Canal Egypt would be able to move her forces at will between the two coasts.

Arab countries of the Gulf do not have any significant naval capability at the moment, but there are indications that some of these countries have embarked on a massive arms build up. The threat posed by some of these countries as well as Pakistan, Indonesia and China will be considered next.

THE SHAPE OF THREATS TO COME

UNPREDICTABLE PAKISTAN

The pall of uncertainty hanging over Pakistan makes it hazardous to guess the direction in which she would move in the coming years. It is problematic whether she would reconcile herself to her diminished stature and arrive at an amicable understanding with India. The sedulously cultivated myth of her material superiority and the trauma of defeat on the one hand, coupled with the continuing need of their ruling elite for a bogeyman to ensure internal stability on the other, militate against such a rational course. The chances, therefore, are that Pakistan would try to match India's military prowess through the assistance of outside powers. China

is an obvious candidate. Some of the Arab countries may also act as conduits for outside arms.

The experience of the 1965 and 1971 wars must have convinced Pakistan about the unfeasibility of making territorial gains against India's western borders. But they also know that by strengthening their army and the air force a little they can contain Indian onslaughts into their territory. In such a stalemated situation they have to look elsewhere to capture the strategic initiative.

Paradoxical as it might seem, the 1971 war has strengthened rather than weakened the Pakistan Navy. Earlier, their navy was faced with the insuperable task of keeping up communications between the two halves of the country sundered oceanically by the Indian peninsula. As a result a drawn out war at sea was suicidal for her. But now the situation has been reversed.

Pakistan is well aware of the fact that over eighty percent of Indian imports pass through the Arabian Sea. Nearly all of India's oil imports, which amount to 15 million tonnes at present, have to pass through the northern part of the Arabian Sea which is virtually Pakistan's backyard. Effective interdiction of India's commerce through the Arabian Sea will have a decisive influence on any Indo-Pakistan war which lasts for more than a few weeks. An attractive strategy from Pakistan's point of view, therefore, would be to fight a standstill war along the land borders while taking the offensive at sea. And there are indications that Pakistan is strengthening her navy with this end in view.

She has already acquired patrol crafts and missile boats from China and Sea King helicopters from Britain. She has modified her submarines for minelaying and is acquiring atleast three more Daphne class submarines from France. She is also negotiating with Britain for the purchase of four ex-RN Whitby class frigates. If this trend continues, it is certain that Pakistan would have quite a powerful navy by the mid seventies.

IRAN

India has no direct clash of interest with Iran. Iran's convergence of interests with Pakistan has several reasons. Apart from their mutual distrust of Soviet union, Iran finds Pakistan's friendship useful to counter the heavy Arab pressure on her west as well as to quell radical insurgencies within the country. The Shah rightly feels that a dependent Pakistan can be of considerable use in combating these threats.

The arms build up in which Iran is engaged at present has few parallels in modern history. The Iranian defence budget has sextupled in a period of three years. Its expenditure on arms in 1973 was in the region of Rs. 1600 crores. The Newsweek weekly of 21 May 73 has reported authoritatively that Iran is in the process of acquiring 102 F-4 Phantom fighter bombers, 100

F-5E fighters, ten KC-135 jet tankers, 700 helicopters (including 200 Huey Cobra gunships), 800 Chieftain tanks, eight destroyers, four frigates, twelve high speed gunboats, two repair ships and fourteen large hovercrafts. There are other reports which speak of Iran acquiring twelve P-3. Orion maritime reconnaissance aircraft, an unspecified number of C-130 transport aircraft as well as Rapier and Tigercat anti-aircraft missiles. Iran has also taken options for a certain number of F-14 Tomcats and F-15 Eagles which will be delivered when these highly advanced aircrafts become operational with the United States. Once these new acquisitions are added to her already considerable armed forces Iran would become a formidable air-sea power of the region. And this by no means is the end of the story. With her oil revenues already totalling \$ 3.5 billion and slated to go up to \$ 8.0 billion by the end of the decade, it would be no problem for Iran to maintain her defence budget at the current level (2.0 billion) or even increase it. Iran's object is to attain a decisive qualitative edge over the other armed forces of the area, something in the nature of Israel's superiority over the Arabs.

SAUDI ARABIA

Because of the spectacular nature of the Iranian build up the attention of the West Asia watchers have been rivetted on that country and they have tended to ignore the considerable military activity going on in Saudi Arabia. That country has recently signed a \$ 280 million deal with a British-French consortium for the construction of six military airfields and the necessary infrastructure. Negotiations are also going on with US, UK and France for the purchase of substantial numbers of Phantom, Jaguar and Mirage aircrafts. Newspaper reports also speak of a \$ 500 million deal with US for the acquisition of 19 warships, mostly destroyers and frigates.

Saudi Arabia's current oil revenues are about 20% more than that of Iran and the gap between them is likely to widen as the years go by because of the former's much greater reserves. Financially, therefore, Saudi Arabia is more than capable of matching Iran's build up. Of course her 8 million population is considerably less than Iran's 32 million and the general level of education and technical know-how is also lower. But with petro dollars pouring in at the rate of \$ 5 billion a year, the sky is the limit as far as acquisition of sophisticated weaponry is concerned. It would be no surprise if that country acquires a 500 plane air force and a 30 to 40 ship navy by the mid-seventies.

OTHER ARAB COUNTRIES

Iran has a 25 gun boat navy and a 220 plane air force, which she is trying to modernise and expand through Soviet assistance. Till 1971 Iraq was holding her own militarily with Iran, but since then she has been left behind not only by Iran but also Saudi Arabia. Iraq has two main disadvantages. Firstly she is the only pro-Soviet nation in the Gulf where

everybody else is pro-West. Secondly, she has only a forty mile coast line compared to Iran's 1000 miles. It is most unlikely, therefore, that Iraq can project any strength outside the Gulf in the foreseeable future.

Kuwait has also undertaken a rapid military build up. She is negotiating a \$ 500 million deal with the United States for the purchase of 160 M-60 tanks, 32 F-4/F-5E aircraft, 1800 anti-tank missiles, 150 AA missiles and 50 helicopters. But with her miniscule population it is difficult to visualise Kuwait playing a military role outside her immediate neighbourhood. The same applies to Qatar and Oman. The danger of these smaller Gulf nations acquiring arms lies not so much in the direct threat that they present to us, but in the possibility that some of these arms might find their way to Pakistan, during an Indo-Pak conflict.

DORMANT INDONESIA

After the coup and counter-coup of 1965, Indonesia has been projecting a very low image of herself internationally. Many of us have tended to forget her confrontation with Malaysia, her strident demand to rename the Indian Ocean as the Indonesian Ocean and her open support to Pakistan during the 1965 war.

The present low posture of the Indonesian Navy should not lead us to underestimate its potential. Because of her size and resources as well as strategic location, Indonesia is being strongly wooed by the United States and Japan. The United States have already transferred two destroyers to her and it is likely that the tempo of this aid would accelerate in the future. Since she possesses ample trained manpower Indonesia will have no problem in effectively manning these new acquisitions. The archipelagic geography of Indonesia is bound to give her strong naval aspirations and sooner or later she would try to regain the maritime role that she played in the early sixties.

THE MARITIME THREAT FROM CHINA

The general tendency in this country is to regard the Chinese threat as a purely continental one. The naval threat is discounted because of the long distance that the Chinese vessels would have to travel before they can operate in our waters. Very few appreciate that our geographic security can vaporise overnight if the Chinese secure an operating base in the area. If the pro-Chinese coups of Indonesia in 1965 and Sri Lanka in 1971 had succeeded one would have been witnessing sizeable Chinese naval activity in our waters today.

Although not fearsome by superpower standards, the Chinese already have enough naval muscle to cause us worry. They have 38 Submarines, 5 destroyers, 20 frigates, 31 sub chasers, 10 missile boats, 160 gunboats, 240 torpedo boats, 22 coastal defence vessels, 27 minesweepers, 54 landing ships/crafts, 33 support ships and 375 miscellaneous crafts. She also has 450

shore based naval aircraft including 100 IP-28 torpedo bombers. What is even more disquieting is the fact that the Chinese Navy is undergoing a large scale expansion and modernisation. The Chinese intentions of doing this was explicitly stated in a Peoples Daily editorial in mid-1970 and was later reiterated by Premier Chou-en-Lai in an interview in August 1971.

The Chinese already possess the ships to threaten us; all they now need is a base in the Indian Ocean Area. Because of her ideological proselytization one can never be certain when there would be a coup in one of the littoral countries which would bring to power a strongly pro-Chinese Government. Once that happens India's maritime security could be in serious jeopardy.

MEETING THE CHALLENGE

THE RATIONALE OF POWER

There is an articulate section of intelligentsia in this country, both in the media and outside, which advocate a policy of conciliation towards emerging powers. They feel that since we have no basic clash of interests with these nations there is no need for us to compete with them militarily. This seemingly plausible hypothesis is finding support mostly out of the realization that it is going to cost a lot of money, if India is to assert herself in the Indian Ocean area.

But then the fact is that India has no real choice in the matter. If we fail to develop power in consonance with our size, population and physical resources, we could create an impression of national flaccidity among outsiders and that can do us incalculable damage. The foreign policy difficulties this nation encountered after 1962, even with nations like Nepal and Sri Lanka, should open our eyes to this danger. To appreciate the positive benefits that a nation can derive from power, one has to only look at the international esteem in which China is held today. Although her GNP is only a fraction of that of the super powers, she is considered their near-equal because of her military prowess.

It takes power to be a power. If this country is to play the role of a principal in international politics—and the alternative is that of being a flabby, inconsequential leviathan then we have no choice but to add a considerable amount of sinew to our military frame. There is a causal, interactive relationship between power and external policy. Power, both military and economic, determines the confines within which a nation's diplomacy must operate. The greater the power the greater the range of foreign policy choices. In a way power is both the ends and means of policy. National policy determines the degree of power that a nation possesses, but the power it has acquired, in turn, delienates the range of external policy alternatives it can pursue. Therefore far from acerbating our relations with other countries a credible posture of strength can do us immense good. In fact it is

the only sure way of deterring our enemies and preventing neutral nations from allying with them.

It is a conjectural point as to just how big a military establishment this country can afford. There are economists who say that our current level of defence expenditure—Rs. 1700 crores in monetary terms and 3.6% as percentage of GNP—is the maximum we can afford and that any increase would result in economic instability which would nullify the military advantages that might accrue. But this does not seem to be a tenable thesis in view of the percentage of GNP which other nations spend on defence. Pakistan spends 5.7%, China 6.5%, Iran 8.5%, Soviet Union 11% and the United States 7.8%. Can it therefore be said that this country cannot spend, say, Rs. 3000 crores, which comes to only 6.5% of our GNP? Posing the question of defence expenditure in terms of bread versus guns is not only simplistic but also invidious. No nations' economy can flourish when its security is in jeopardy. In that sense military and economic strengths are not contradictory, but complementary.

INDIA'S SECURITY INTERESTS

As the ranking power of the Indian Ocean and a potential world power India cannot afford to have an unduly restricted security horizon. The fact that we have no ideologies to propagate and no expansionist designs to pursue does not mean that we should withdraw into our shell and adopt a 'Fortress India' attitude. While such a posture may conceivably have had its virtues in the past, it is totally unsuited to the present times, when the threats facing the nation can neither be identified as territorial nor as emanating only from Pakistan and China.

In broad terms India's security objectives can be set down as follows:—

- (a) The ability to fight China to a standstill in a non nuclear war.
- (b) The means to inflict a quick and decisive defeat on Pakistan.
- (c) The power to dissuade any nation along the Indian Ocean rimland from allying itself actively with either Pakistan or China.

In discounting the chances of a nuclear war with China, I have not relied so much on China's oft-reiterated position of 'No First Strike' but rather on the realities of world nuclear balance. Since her nuclear arsenal is no match for those of US and USSR, China would never risk a step which would give these countries a chance to pulverize her. Considering the tremendous cost of nuclear weapons and their non-usability in most of the conflict situations likely to face us, it would be politic for India from the point of view of cost effectiveness to rely on a Soviet guarantee in meeting China's nuclear threat.

We should, however, be fully prepared to take on China at subnuclear levels. Our mountain divisions have nearly stabilized the Himalayan borders and they need only marginal accretion to their strength. But our

air defence has to be beefed up to combat Chinese air attacks both at tactical and strategic levels. We should also acquire Deep Penetration Aircraft which can retaliate at least in Tibet, Sinkiang and Southern China. We also need to strengthen our Navy, both to combat China's submarine menace as well as to provide a counter threat of our own.

Against Pakistan, our Army would need more armour and mechanised infantry to break through the enemy's heavily fortified defences. The Air Force would need DPAs to attack interior strategic targets and additional interceptors to combat Pakistan's growing air strength. The Navy would need more escorts to guard our highly vulnerable shipping in the Arabian Sea as well as forces required to blockade the Pakistani coast.

Our final security requirement is to discourage nations along the Indian Ocean periphery from aiding Pakistan or China. For obvious reasons the brunt of this responsibility will have to be borne by the Indian Navy. There is no doubt that the job can be done far more successfully and cost effectively by carrier borne aircraft and ship-to-surface missiles. It is in this context that the urgency of expanding and modernising our navy is most seriously felt.

A MARITIME STRATEGY FOR INDIA

Strategy in its broadest sense can be described as the conceptual framework to be used in attaining the security objectives of a country. As we were totally pre-occupied with border warfare in the past, our strategic thinking has developed a strong continental orientation. But now that the situation has changed and the Indian Ocean is entering increasingly into our security calculations, we have to give serious thought to the maritime strategy the nation should pursue.

No nation in the world geographically dominates an oceanic area the way India dominates the Indian Ocean. We are the only nation which has easy access to both the Arabian Sea and the Bay of Bengal. We are also well located to exercise control over the entry points to the Pacific Ocean, the Gulf and the Red Sea. We have good and well-spaced harbours on both coasts of our peninsula. There is no doubt, therefore, that India possesses in ample measure the first two elements in Mahan's classic concept of sea power, namely, Geographic Position and Physical conformity. There need be no qualms about the third and fourth elements either, viz, Extent of Territory and Character and Numbers of People. It is Mahan's fifth element, namely, the Character of Government which is going to determine whether this nation is going to fulfil its enormous maritime potential.

The Character of Government implies the awareness in the policy making Councils of the state about the potentialities and applicability of sea power as well as the determination to develop a fleet large enough to achieve them. In a sense sea power is an amalgam of geography and ships. We have the geography; what we need are the ships to exploit it. The

achievements of the Indian Navy in 1971 have dramatised to the nation the possibilities of a maritime option, but whether the idea has sunk deep enough has yet to be seen.

Maritime strategy, much more than its military counterpart, has a dual role. In peacetime, it can be used as a visible adjunct of the foreign policy to show the power and will of the nation. Warships have a rather unique capability which is not shared by divisions of soldiers or squadrons of aircraft. Even in peace time, they can demonstrate their power and reach by visiting foreign ports. It is this capacity which gives significance to the term 'naval presence'. We can gain a good deal of political mileage by parading our ships along the Indian Ocean periphery as credible symbols of our power and purpose.

We should also attempt to foster defence relationships with Indian Ocean nations. We are training a fair number of the defence personnel of these countries already. But Pakistan has had much greater success in field, particularly in the West Asian region. Many people do not realize that the Pakistani officers working with these countries exert a powerful lobbying effect in giving a pro-Pakistani bias to these countries' policies. We should therefore do our very best to supplant or at least neutralise Pakistan's influence.

Another favourable field of military co-operations is selling arms commercially. We already export limited quantities of small arms and ammunitions. It is possible that with a little effort we can export many more items of less sophisticated armaments. Recent newspaper reports speak of France and Pakistan collaborating to produce armaments in Pakistan for export to West Asian countries. This should serve both as a warning and an example to us.

Exclusion of great powers from the Indian Ocean area, to the extent possible, should be an important consideration of our overall strategy.

Of course all these are peace time plans. Once the battle is joined the country needs usable power optimised for the contingencies that are likely to occur. The capabilities which the Indian Navy should possess in this regard can be broadly summarised as follows:-

- (a) The ability to protect our merchant fleet.
- (b) The capacity to protect our ports and their focal areas.
- (c) The capability to shield our island territories including that recapturing an island which has been invaded.
- (d) The ability to blockade Pakistan and attack her shipping.
- (e) The capacity to attack Chinese shipping even in the China Sea.
- (f) The strength to strike at the homeland and seaborne trade of any country which carries its support to our enemies too far.

It is evident that to pursue the strategy outlined above the nation needs a fleet that can operate along the length and breadth of Indian Ocean and not just in our coastal waters. No surface unit can operate today without air cover and so the prime requirement for an ocean ranging navy is adequate sea based air power. Shore based aircraft can supplement carrier air power but cannot supplant it.

The new breed of Sea Control Ships which displace about 15000 tonnes and carry about 20 VTOL aircraft are ideal for our purposes. A fleet of four of them costing around 500 crores would secure for us complete freedom of action in the Indian Ocean,

We need a sizeable number of escorts for protecting our mini carriers as well as our merchant ships. They would all require A/S capability but some of them should have substantial AA armament as well. The frigates which escort our carriers to F-4 and F-5E infested waters would definitely need a 'Goa' type missile capability to do their job. It seems that the following would be the very minimum that is necessary:-

- (a) Six large size dual purpose frigates with medium range SAMs for fleet escort. Soviet Krivak class is a good example.
- (b) Twelve medium size A/S frigates with some AA capability as well, e.g. Leanders. These as well as the larger ones should have short range SSM capability also for self-protection.
- (c) At least 20 corvette size A/S vessels, mainly for trade protection.
- (d) Two dozen sub chasers for escorting coastal convoys and guarding the focal area outside our ports.

To be able to effectively interdict enemy shipping we need a considerably larger submarine flotilla than what we have now. Submarines are also useful for mining enemy harbours. We need medium range submarines for operating in the north Arabian Sea and long range ones for deployment in the rest of Indian Ocean as well as the China Sea. A submarine strength of 24 should suffice for our needs.

Besides VTOL aircraft for our carriers, we need maritime recce aircraft and A/S helicopters. A squadron of Atlantiques (or other comparable aircraft) operating from Bombay, Jamnagar, Vishakhapatnam and Car-Nicobar can be of inestimable value to us. We should also add to our A/S helicopter strength. They would be most useful whether operating from ashore or from carriers.

We have to also enlarge our mine sweeping strength, Pakistan is modifying her Daphnes for mine-laying and most Chinese Submarines already have that capability. We should acquire mine sweepers as well as mine clearing helicopters to combat this menace.

Finally, we have to acquire a reasonable number of landing ships/craft and SDBs to maintain control over our island possessions. Andaman

and Nicobar islands are of tremendous strategic value for us in the Bay of Bengal. Their importance would increase even more if the proposed Kra Canal materialises.

The acquisition programme outlined above should not cost more than Rs. 2000 crores at current prices. The back up facilities would probably cost another Rs. 500 crores. The total sum of Rs. 2500 crores may appear to be considerable at first sight, but the yearly expenditure would come to only about Rs. 350 crores if we spread our procurement over the remaining seven years of the current decade. That is certainly not an exorbitant sum to spend for dominating the Indian Ocean and stifling any threat from that quarter.

It is said that the clear expression of national purpose accompanied by evident and adequate means to carry it into effect is the surest safeguard against war. The 1962 and 1965 wars were thrust upon us because we failed to signal our will and demonstrate our national fibre. The consequences of that remissness were catastrophic. Now that the 1971 war has regained our prestige and influence in some measure it would be tragic if we founder again.

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THREAT TO INDIA'S SECURITY FROM CHINA IN 1980's

MAJOR BS SIROHI, PSC, 6 JAK RIF

INTRODUCTION

CHINA today has emerged as the Third World Power. Her political consolidation over the mainland of China and military power coupled with her recently acquired nuclear credibility has placed her in a dominant role in Asia vis a vis the countries of the Region who are, in most cases, busy in acquiring political and economic stability. It is unlikely that the two super powers will contest her sphere of influence in South-West Asia.

Mere demographical considerations, if nothing else, will forbid China in projecting a military ambition across the Himalayas, or in bringing large tracts of South-East Asia under her direct control but it certainly will not prevent her from exercising dominance over the smaller countries in this area without physically occupying them. It is not in her interest to invade India militarily and it is perhaps beyond her capacity too, but it is certainly in her interest to establish in India, a form of Government after their own image and one that is subservient to them.

China's claims across the six Himalayan passes on the Himachal Pradesh and Uttar Pradesh borders i.e. Shipki, Mana, Niti, Kingri Bingri Dharma and Lipulek as well as on approximately 40,000 square miles of Arunachal Pradesh are entirely based on this concept.

The fallacy of invincible Himalayan frontiers was shattered by the events of October-November 1962. Our thinly populated borders will, for ever, be an invitation to the Han race with its outstanding history of expansion and movement. We have had a foretaste of this active interest being taken by the Chinese in Nagaland, Mizo Ram and Naxalbari.

We have special responsibilities not only to safeguard our values and our way of life but also to remember that whatever happens in our farflung border areas, not only affects the security of our own country but also of neighbouring friendly countries like Burma, Bangla Desh and Nepal as well as other states towards whom we have special responsibilities, e.g. Bhutan. India is the only country in the region which has the capability and potential to match and rival this Chinese emergence. For obvious geo-political and ideological considerations of necessity the major interests of the two powers must clash. It is in this context that China poses a political, ideological and ultimately a military threat to India.

It is therefore essential that for our survival as a democratic state and for the preservation of our values, we should establish a military balance of power in this area and acquire an ability to defend our vital interest and let it be impressed upon the concerned quarters that we intend safeguarding them by every means at our disposal. The aim of this paper is to evaluate the threats to India's Security from China in the 1980's and to suggest a suitable strategy to meet the challenge.

THREAT TO INDIA FROM CHINA IN 1980's

Chinese have never gone back upon their historical middle-kingdom concept and from all indications they are determined to restore their old supermacy in Asia,* along with the aim of pushing forward the banner of International communism. Chinese maintain the world's largest land forces backed up by Naval and Air Forces of moderate size. Of late she has acquired a nuclear capability. As against India's 3.8 to 4 percent, she has been spending about 10 percent of her gross national product on military apparatus.

CHINA'S CONVENTIONAL MILITARY POTENTIAL †

Her military potential lies basically in her large reserves of manpower. According to latest estimates she maintains a regular force of some 3,000,000 men including the Navy, Air Forces and Railway engineers.

People's Liberation Army (PLA). Total strength of the PLA is estimated at 2,500,000. The PLA is essentially a defensive force and lacks the facilities and logistic support for protracted large scale military operations outside China. It is, however, gradually acquiring greater logistic capacity. (These inferences are essentially based on comparisons against more advanced western armies. In the Asian environment the Chinese can be assumed to have adequately favourable defensive as well as offensive capabilities vis a vis her adversaries within and around her borders). The PLA consists of:-

(a) *Strategic Forces.*

I RBMs—20-30.

MRBMs—about 50.

Aircrafts—about 100 TU-16 medium bombers.

(b) *Supporting Arms and Services—*

20 Artillery divisions

3 Antitank artillery regiments

* Peking envisions the establishment of Chinese hegemony in Asia, the elimination of American bases, and the recognition by all Asian countries of China's dominance". Quoted from M.H. Halperin, *Contemporary Military Strategy*, London, in 1968 page 75 in the USI paper on China's Strategic posture in the 1980's by Maj Gen AM Vohra on Page 18

† *Military Balance 1974-75*—The International Institute for Strategic Studies. London.

- 34 Motor transport regiments
- 2 Signal regiments, and
- 41 Railway and construction engineer divisions.

(c) *Approximately 136 divisions*—of which:—
 7 are Armoured divisions
 4 Cavalry divisions
 6 Airborne divisions (under Air Force)
 119 Infantry divisions
 (some of which are especially equipped and trained for mountains and deserts).

(d) *PLA's Heavy Equipment.* Major heavy equipment of the PLA is of Soviet origin of pre 1960 vintage. It includes artillery upto 152 and 203 mm, Soviet JS2 heavy tanks, T-34, T-54, Chinese produced T-59 medium tanks, T-60 (PT-76 type), amphibious and T-62 light tanks. Heavy field engineering equipment and motor transport are in short supply. Radar and electronic communications equipment are less sophisticated. They are presently going in for production of armour of their own origin and design, including light tanks and APCs. Self-propelled artillery includes Su-76, Su-100, JSU-122 and JSU-152. The ground forces are adequately equipped with a range of infantry weapons, light and medium mortars, rocket launchers, recoilless rifles and light and medium artillery, all produced in China.

Navy. Its total strength is 2,30,000 including 16,000 in Naval Air Force and 28,000 marines. Its major equipments is:—

- (a) 1 G class submarine (with ballistic missile tubes), 80 Fleet submarines (26 Soviet R-21 W class),
 6 Surface to surface Missile destroyers with Styx,
 1 Ex-Soviet Gordy class destroyer,
 10 Destroyer escorts (some with SSMs),
 15 Patrol escorts,
 20 Submarine chasers (Soviet Kronstadt type),
 100 OSA and Komar type FPB with Styx SSMs),
 27 Mine sweepers (20 Soviet T-43 type),
 46 Landing ships (Ex-45),
 315 MGB (Shanghai, Swatow, Whampoa types),
 230 MTB and hydrofoils (less than 100 tons),
 225 Armed motor junks and motor launches,
 180 Supply and miscellaneous vessels.

(b) *Naval Air Forces.* Its total strength is approximately 30,000 men. It has:—

- Over 600 Shore —based combat aircraft (including about 100 JI-28 torpedo carrying),

Some TU-2 —Light bombers,
 Some 500 Fighters —(including Mig-17, Mig-19, F-6, some
 F-9 Be-6 Madge MR aircrafts),
 Mi-4 —Ho and Helicopters
 (Naval fighters are integrated into air defence system).

Air Force. Its total strength is approximately 220,000 including strategic forces and 85,000 air defence personnel and some 3,800 combat air crafts.

- (a) *Air Crafts.* Consists of at least 50, TU-16s and a few TU-4s, medium bombers, at least 200, IL-28 and 100, TU-2 light bombers, early models of MIG-15, 1700, MIG-17, at least 1300, MIG-19 about 50, MIG-21s and upto 400 F-9 fighters. Air transport fleet consists of about 400 transport aircraft, 300 helicopters (including 200 AN-2, JL-14 and JL-18 transport aircrafts and Mi-4 and 10 SA-321 JA Super Frelon helicopters). These could be supplemented by about 400 aircrafts of the Civil Air Bureau.
- (b) *Air Defence System.* Is based on radar and interceptor aircraft including some MIG-21 and some SAM-2 Guideline surface-to-air missiles.

Para-Military Forces. China's security and border troops number about 300,000. The border troops include 20 infantry type divisions and 40 independent regiments permanently stationed in the frontier areas in addition to the regular divisions. In addition to public security (formerly People's Armed Police) force, there is a civilian militia probably not more than 5 million, organised into divisions and regiments. Some of its urban elements have some heavy anti-aircraft weapons. There are civilian production and construction corps in a number of MRs including those adjoining the Northern frontiers.

CHINA'S DEFENCE COMMITMENTS

China's defence commitments are far greater than anything India envisages for herself. Even though the US land forces in the region have disengaged, the USA will continue to retain the ability to exercise strong offshore military influence. At the same time rival Japanese military and economic influence is likely to build up in the region. Growing Soviet interests and presence in the region, the overall growing rivalry of super-powers in the Indian Ocean area and the interest of the super-powers in the stability of the world order will have obvious implications on China's defence commitments. China has serious political and ideological discord with the super-powers and her national as well as International interests clash with those of the super-powers.

China has publicly declared USA and USSR as her arch enemies inspite of the latest developing detente. Her long borders with USSR and the presence of American fleets in the Straits of Taiwan and the Pacific pose

constant threat to her national security. She is therefore forced to maintain and deploy large forces:-

- (a) Against the long Russian borders.
- (b) Against the presence of US fleets in the straits of Taiwan and the Pacific.
- (c) Against the growing possibility of resurrection of powerful and hostile Japan.
- (d) On internal security duties like the cultural—revolution after-effects and the revolt in Tibet.

DEPLOYMENT OF CHINA'S DEFENCE FORCES

China is divided into 11 Military Regions (MRs) of which Inner Mongolia (divided between the Sheingang and the Peking MR), Sinkiang and Tibet come directly under Peking. Each Military Region is in turn divided into two or three military Districts and one of the existing 36 field armies is allotted to each military district. A field Army generally consists of 3 infantry divisions (each of about 12,000 all ranks), 3 artillery regiments and in some cases have 3 armoured regiments. Some formations are centrally controlled.

PRESENT GEOGRAPHICAL DISTRIBUTION OF DIVISIONS

(Includes divisions/indep Regiments of security and border troops, located in frontier areas):-

North and North-East China (Shenyang and Peking MR)	—20 Divisions plus 2-3 Divisions of border troops.
East and South-East China (T Sinan, Nanking and Foochow MR)	—25 Divisions
South Central China (Canton and Wuhan MR)	— 20 Divisions including Hanan Islands
Mid-West China (Lanchow MR)	—15 Divisions
West and South-West China (SinKiang, Chengtu and Kuming MR)	—26 Divisions plus 2-3 Divisions of border troops

Military Potential in Tibet: China maintains about 15 divisions in Tibet to cater for borders with India, Nepal, Bhutan. These include some well equiped mountain divisions. Besides, she has:-

- (a) Constructed about 25 airfields and air strips of which at least two can take light bombers.
- (b) Constructed two roads capable of taking on 7 ton loads from central China through Tibet upto the India-China borders.
- (c) Constructed a lateral along the entire border from Arunachal

Pradesh (NEFA) to Ladakh.

- (d) Built up stocks of ammunition, military supplies, petrol, oils and lubricants for the ground and air force units.

Distances are prohibitive. The lines of communication are unmanageably long and arduous*. There are acute shortages of motor transport. Susceptibility and vulnerability of these communications limit the quantum of forces that can be maintained in action in this area. For instance, it is 16,00 Kms from Lhasa to Langchow and 1300 Kms to Chengtu. Khampa guerrillas constantly harass these lines of communications and divert sizeable forces to protect these vital arteries. China possibly can induct from 5-8 divisions into Tibet but it is unlikely she can sustain more than 8-10 divisions in the vicinity of the Indian borders. In a decade or so she might be able to put in from about 15 to 20 divisions across the Indian borders in Tibet.

THREAT TO INDIA

In a decade or so, China will have the capability to undertake large scale operations from Tibet and also across North Burma.**

She poses not only a military threat to India but a multipronged threat involving the fields of politics, economics and ideology. A detailed survey brings out the following facts:-

- (a) At present she lacks the capacity, in particular strategic mobility to undertake large scale military operations away from her borders or to invade and successfully hold down any significant portions of India. But the situation may change in the 1980's giving her a moderate capability in this regard.
- (b) Under the 'Middle Kingdom' concept China considers, areas subject to her control, which at times extend to Burma, Vietnam, Thailand, Indonesia and the USSR. China lays claims of sovereignty over parts of India under the pretext that some times these paid tributes to the Tibetan-Lamasery.
- (c) It is unlikely that in the near future she would undertake territorial conquests against smaller states of South-East Asia or the Himalayan Kingdoms of Nepal and Bhutan. At the same time, it is likely that she would do every thing to bring these states under her hegemony by coercing their governments to conform to China's policy by aiding pro-Chinese elements to seize power.
- (d) She would attempt to create a nominally independent federation

* Also ref to India's Strategic Spectrum by Ravi Kaul, page 81.

** Burma road from Imphal to Yunnan is in disrepair, but is a direction of attack the Chinese might not hesitate to use should it suit their purpose in the future, neutral territory notwithstanding, 'India's Strategic Spectrum' by Ravi Kaul, page 81.

of the Himalayan States and thereby try to reduce and eventually supplant Indian influence. At a later stage she would attempt to draw into this federation those parts of Indian territory to which she has laid claims.*

- (e) In the wake of Indo-Soviet Treaty of Peace and Friendship of 1971 and the democratic interests of the US and the WEST, China's strategy would be to avoid undertaking large scale military operations but it would continue to maintain bellicose and aggressive posture to force India to divert to defence unduly large portions of her limited resources thereby detracting her from economic developments. She would thus continue to subject India to pressure of military intimidation and will encourage all forms of subversion.
- (f) China would continue to pressurise the Himalayan kingdoms to cease being dependent on India, support anti-Indian elements on our borders and both overtly and covertly foster and encourage fissiporours tendencies and separatist movements in the country thereby weakening the power of the Indian Central Government.
- (g) She would do all that is possible to ensure failure of Indian democratic system. She should foment trouble in selected border areas with the help of some revolutionary elements, dominate them by a combination of subversion, guerrilla warfare and the threat of attack by a large manpower army and even by limited attack to achieve a limited aim.
- (h) Exert diplomatic, economic and military pressure on non-aligned nations in Asia and Africa with a view to isolating India and denying her their good will, friendship and trade.
- (j) China would continue a constant propaganda undermining India's prestige, denouncing its achievements and consistently encouraging internal disruption and agitation by local subversive elements.

Therefore threat from China is military, political, economic and ideological. Militarily at the most she can do is to detach from India parts of Assam and Ladakh in a limited confrontation.

NUCLEAR THREAT FROM CHINA

China exploded her first 20 Kiloton fission triggered device at Lopnor

* Peking continues to advance such proposals as a confederation of Himalayan States that would include NEPAL, BHUTAN, SIKKIM, NAGALAND and an 'Eastern Hills State' in what is now NEFA, and seemingly alternative possibilities such as 'regional autonomy' for a 'DARJEELING-DUARS district, a Federation of BHUTAN and SIKKIM and a Gurkhistan which would include all Nepalis in North BENGAL and ASSAM. The threat is both immediate and long-term, overt and covert, diplomatic, economic, and ideological as well as military. Quoted from, 'What does China want in the Himalaya's in an article published in Financial Times 18 Feb, 1963; in 'India's Quest for Security' by Iorne J Kavic (page 187).

in Sinkiang on October 16, 1964, a fusion bomb containing thermonuclear material in 100 to 130 Kiloton range on May 9, 1966, on October 27, 1966 they set off a nuclear tipped guided missile with a range of about 400 miles and on June 17, 1967 the first hydrogen bomb was exploded. The first underground nuclear test was announced in September 1969 and an artificial satellite weighing about 173 Kg (381 lbs) was launched into Earth's orbit in April 1970. Although her development of IRBMs and ICBMs is still in its infancy, by the middle of 1980's she is likely to possess a reasonably credible nuclear force. No estimates or intelligence reports are forth-coming on China's developing tactical nuclear weapons. In view of her progress in nuclear technology, it may be assumed that she will be able to deploy in the field low-yield mortars, guns and missiles in the very near future. From all accounts it appears that:-

- (a) Once she has acquired a minimum credible nuclear deterrent, instead of continuing with futile nuclear arms race, she will switch over to production of latest generation of sophisticated weapons with a bias towards massive employment of missiles and rockets.
- (b) She will shortly acquire an adequate stockpile of nuclear weapons and necessary delivery system to inflict tremendous devastation on her non-nuclear neighbours, especially India.

Therefore, it is most probable that within the next decade China will have the necessary capacity aimed at nuclear intimidation and blackmail against India. Our population centres are vulnerable from bases in Tibet but not hers. It is fallacious to assume that the fear of escalation will deter China from nuclear blackmail of non-nuclear India. Although it has not been tried and proved in practice, the low-yield tactical nuclear weapons could be used in limited conflict without fear of super-power response in aid of a non-nuclear nation. Therefore, threat to India from China in the nuclear field is of low-yield tactical nuclear weapons unless timely steps are taken by us to counter-balance the threat.

SUGGESTED STRATEGY

CONCEPTS OF NATIONAL SECURITY

To quote Walter Lipmann, the modern concept of national security is, "The ability of a nation to protect its internal values from external threats". Security is essential for development and, defence production also stimulates economic growth.

For our survival and for the preservation of our values, it has become necessary that we develop as a fourth-world power and establish a military balance of power in the region which would be essential to achieve a state of practical co-existence with the Chinese.

India is the seventh largest, second most populous country, has the

fourth largest army in the world and spends nearly a third of her national budget on defence. She is the predominant country in South Asia, and the only one with the potential strength to prevent Chinese expansion South of the Himalayas.

Our wars with China are likely to be short, sharp and swift and will be fought only with forces 'in being'. The vast manpower potentials of the two are therefore irrelevant in considering an Indo-China war on our Northern borders.

OUR STRATEGY

Our grand strategy must aim at attaining a big power status and for altering the present and emerging power distribution structure of the world. We should prefer a polycentric world of multiple balances.

Our present strategic policy continues to be to deter a deliberate attack upon the Indian sub-continent by maintaining a highly reliable ability to inflict unacceptable damage upon the aggressor. Our defence plans are designed to defeat with the weapons and equipment at our disposal, a limited Chinese attack and our will and ability not only to defend ourselves, but also to hit back and punish the aggressors. Our potential aggressor must believe that our assured destruction capability is in fact actual and that our will to use it in retaliation to an attack is in fact unwavering.

For security we must not only build up our strength to take a defensive-offensive action in the event of an aggression against us, but we must also use, the indirect approach of weakening our enemies internally and isolating them diplomatically.

BASIS OF OUR STRATEGY

Superiority in (Strategic) doctrine is likely to play as effective part as superiority in technology in the years to come. This doctrine must account for the entire range of the spectrum of conflict, both violent and non-violent, and provide the most flexible response to meet the challenges that will undoubtedly arise.* Our strategic doctrine must, therefore, be based on the following:-

- (a) A dynamic and assertive foreign policy based on realistic assessments.
- (b) A well defined defence policy with clear aims and objectives and assertion of our will to defend.
- (c) An efficient machinery for higher directions of national defence strategy encompassing:-
 - (i) An integrated body of civil and military experts.
 - (ii) An integrated and permanent planning body including scien-

*India's Strategic Spectrum by Ravi Kaul, page 222.

- tists, technologists, economists, military experts and administrative generalists for long term defence planning.
- (iii) An independent defence evaluation organisation directly responsible to the Defence Minister.
 - (iv) A new attitudinal change instead of the present typical bureaucratic approach to all issues.
- (d) Well coordinated and guided political and diplomatic efforts to sustain the foreign and military policy.
 - (e) Economic developments and efforts to achieve self-sufficiency.
 - (f) A policy of self-sufficiency and self-reliance in defence production and procurement of defence equipment, weapons and supplies.
 - (g) An emphasis on research and development. Presently we spend only 0.5% of our total expenditure on it. Need for coordination and control of R & D, production and inspection by a single integrated organisation at the technical working level.
 - (h) Integration of logistics. Almost three quarters of our defence budget is spent on logistics.
 - (j) Optimum size and shape of our forces should be considered on the basis of 'threat' and their effectiveness. Following will achieve greater cost effectiveness:-
 - (i) Overall size and shape of the forces could remain at the present level but steps must be taken to reorganise, reshape and reform the forces.
 - (ii) Introduction of modern sophisticated equipment and frequent reviews.
 - (iii) Improving teeth to tail ratio of the forces.
 - (iv) Integration of the three services.
 - (v) Modern managerial techniques in defence by use of:-
Introduction of scientific inventory control would save 10-15% of total defence expenditure. Automatic data processing.
Techniques of Plan Evaluation and Research Techniques (PERT). Critical Path method (CPM). Operations Research (OR). System Analysis, Research and Engineering systems.
 - (vi) Greater mobility, higher values of reliability and maintainability of the transportation systems.
 - (vii) Constant development and research on combat techniques, doctrines and training.
 - (viii) An efficient and reliable intelligence and espionage service.
 - (ix) Judicious deployment of forces and creation of strong mobile and uncommitted reserves.

- (k) Organising our borders to supplant and assist defence forces by:-
 - (i) Formation of soldier colonies of armed ex-servicemen, police personnel and border security forces.
 - (ii) Manning of transport, power-installations, air fields and ordnance factories in border areas by ex-servicemen.
 - (iii) An intelligence and political/ideological indoctrination organisation.
 - (iv) Expeditious merging of the existing border population into the national whole.
 - (v) Making these areas economically viable.
- (l) Organising Para-Military Forces:-
 - (i) A better organised and trained volunteer army e.g. the NCC and reservists.
 - (ii) Organising forces like the Border Security forces, Indo-Tibet Border Police and the Special Services Bureau (SSB) to guard the borders and relieve the regular army for better training and operational efficiency.
 - (iii) These forces could simultaneously organise peripheral intelligence and political/ideological indoctrination besides being infrastructure for development of self-defence units and resistance groups in a contingency.

OUR NUCLEAR STRATEGY

India's immediate interests demand that she embark on a moderate programme of nuclear weapons development of low and intermediate yields for tactical and strategic employment based on delivery systems currently available as well as on the development of short and intermediate range missiles of three hundred to three thousand miles range.* And therefore:-

- (a) We need develop only a sufficient nuclear striking power to make tactical nuclear war unacceptable to China.
- (b) Basis of our nuclear doctrine should be a 'minimum deterrence'. This can be achieved by acquiring tactical nuclear weapons. To achieve this we only need:-
 - (i) Development and subsequent manufacture of a 2500 mile missile.
 - (ii) A low yield nuclear bomb.
 - (iii) Development and manufacture of advance strike aircraft.

CONCLUSION

Emergence of China as a third World-Power backed by a nuclear credibility, disengagement of US land forces in Asia, power-vacuum

*India's Strategic Spectrum by Ravi Kaul (page 200)

and the growing big-power rivalry in the Indian Ocean area, prospects of an economically advanced and militarily emerging Japan, turn of events in the Indian Sub-Continent following the December 71 war, have all changed the pattern of power balance in the Region. Chinese 'Mogoloid Federation' and 'Middle Kingdom' concepts coupled with her leaders' faith and belief in the efficiency of military force for asserting political influence and her championing the cause of International Communism pose a military, political, economic and ideological threat to the non-communist countries of the region and more so to India.

India by virtue of her geophysical location and a large military potential is the only country in this region, to match and rival the Chinese emergence.**

China has her limitations in the quantum of military threat she can pose to India across the Himalayas now or in the 1980's. India with her present military potential duly organised and modernised with increased mobility and effectiveness of her forces coupled with a 'minimum nuclear deterrence' and a credible national strategy can meet the Chinese threat in the 1980's.

** An extract from an appraisal by US Deputy Assistant Secretary of Defence Mr. James Noyes to the Congressional Sub-Committee on the Near East and South Asia, Published in 'Hindustan Times' on 4 Aug 74.

- (a) India is now unquestionably the major power in South Asia. Its industrial base among the 10 largest in the world, sets it apart not only from the other countries in the area but also from virtually all other countries of the Indian Ocean.
- (b) India's military establishment with the largest army in the non-communist world is capable of successful defence against any attack China might be able to launch.

STRATEGIC CONCEPTS OLD AND NEW**

MAJOR M VALLIKAPPAN

"Soldiers are usually close students of tactics, but only rarely are close students of strategy and practically never of war."*

BERNARD BORDIE

INTRODUCTION

WAR once the sport of kings has today in the nuclear age become an undertaking too pregnant with mortal danger. War is not only too important to be left to the generals but too important and far too complex to be handled adequately by any one professional. War and Peace has become too serious a business to be restricted to few specialists, whether civilian or military. A single thermonuclear bomb has an explosive force superior to that of all the bombs dropped on Germany in four years. Faced with such a cataclysmic Armageddon, our civilization requires a science for taking action. In such a science, strategy could and should play a key role; it should be strategy which ensures that decisions taken to further a certain policy are carefully thought-out decisions.

The growing costs and complexity of new weapons have accentuated the problems. The allocation of national resources to defence needs is also increasingly being subjected to scrutiny by public opinion, a trend which has increased with years with the widening of democratic base in the states.

With war studies increasingly taking over from traditional military history, the contemporary student, military or academic is receiving a new vocabulary and a new list of heroes. Instead of familiarity with the campaigns of Hannibal, Alexander, Napoleon and Rommel, he is now faced with the problem of knowing the writings of famous military intellectuals such as Clausewitz, Mahan, Douhet and Liddel Hart and a new generation of academic strategists like Herman Kahn, Bernard Bordie, Henry Kissinger and Raymond Aaron.

It is in this context that an attempt is made to have a cursory glance of the strategic concepts old and new with a view to understand war in all its ramifications and seek an answer to the question that Marshal Ferdinand Foch used to ask—"What is it all about?"

PREVIEW

The teaching of military history in the Army has always laid stress upon organization and discipline, leadership and morale, logistics and

* War and Politics (1973).

** This article is based on research carried out at the College of Combat.

weapons, sieges and blockades. In short its chief aim has been operational and functional. The bigger, the more complex and more diffuse matters of military policy as enunciated by Clausewitz, Machiavelli and Sun Tzu have been largely ignored. The reasons are:-

- (a) a tradition in the armed forces of looking askance at anything which appears scholarly or intellectual.
- (b) emphasising leadership qualities over and above strategic decision making.
- (c) emphasising tactics and not strategy because tactics makes more demands on military virtues like courage and resolution; strategy has always been considered as an esoteric subject.
- (d) the infrequent occasions upon which officers have had to offer advice upon strategic decisions.

But times have obviously changed. Security for example is now vested with a far keener sense of sociological involvement than even the last decade. As the art of war has developed its scientific content, so the counter balance of 'people concern' has acquired new importance. An aspiring strategist must master both the scientific and social principles if his philosophy is of any value either in the field of peace or in the field of battle.

It is time that soldiers learned of the higher problems of war, especially so as modern war is so all pervasive. The great Marshal Maurice De Saxe observed that most commanding generals displayed on the battlefield the utmost confusion and asked himself, "How does this happen? It is because", he answers, "very few men occupy themselves with the higher problems of war. They pass their lives drilling troops and believe that this is the only branch of the military art. When they arrive at the command of the armies they are totally ignorant, and, in default of knowing what should be done, they do what they know." Although these words were written over 200 years ago, they have applied perennially to the art of the soldier, and apply about as well now as when they were written. Hence the need for the study of strategy.

THE EARLY STRATEGISTS

According to the traditional histories of China, Ni Moo who was a general of Huang Ti, the Yellow Emperor, the earliest of Chinese rulers around 3000 B.C., was said to have written a book on war, which might be the very first military treatise in the world. Another writer Sun Tzu was one of the military thinkers who presented his writings to Ho Lu, the king of Wu in the middle eastern China, West of Shanghai about 514 B.C.

Sun Tzu's theory of winning a war has but two major facets. The first is not to allow oneself to be defeated; in essence, to make it impossible to be defeated. The second is to seek ways to defeat an enemy. Sun Tzu did not believe that it was always possible to defeat an enemy. He recognised that one may know how to conquer without being able to do it. But he

believed it quite possible to secure oneself against a defeat. Sun Tzu also believed in breaking the enemy without fighting.

To some, this may sound too much like wishful thinking or dreaming. However, in the nuclear age, all strategists must think in the manner of Sun Tzu's lines about how to achieve the objective by not fighting. Sun Tzu said, "In war, the best thing of all is to take the enemy's country whole and intact, to shatter it and destroy it is not possible, or profitable. Hence to fight and conquer in all your battles is not supreme excellence. Supreme excellence consists in breaking the enemy's resistance without fighting."

The maxims laid down by Sun Tzu still hold good because the author dealt with the influence of politics and human nature on military operations. Sun Tzu said that it is the rule that if your forces are 10 to enemy's 1 surround him, if 5 to 1 attack him, if twice as numerous, divide him; if slightly inferior in number avoid him; and if quite unequal in every way flee from him. The army according to Tzu is the bulwark of the state. If it is complete in all respects, the state will be strong. If it is defective the state will be weak. If you know the enemy and your own troops, you need not fear the result of a hundred battles. If you know your own troops but not the enemy for every victory gained, you will suffer a defeat. If you know neither the enemy nor your own troops you will succumb in every battle. Hence a general is skillful in attack whose opponent does not know what to defend, and he is skillful in defence whose opponent does not know what to attack.

MACHIAVELLI

The first real treatise on strategy was Niccolo Machiavelli's 'Art of War' which had been a classic through the sixteenth century. Even Clausewitz, who tended to scorn most other military writers treated Machiavelli with respect because like him, "he was convinced that the validity of any special analysis of military problems depended on a general perception, on a correct conception of the nature of war." Machiavelli has been called the first modern military thinker. He raised military discussion to a new level and established the principles according to which intellectual comprehension and theoretical analysis of war and military affairs progressed. According to him the complete destruction of the enemy state must be the chief aim in war; real war is a fight for existence and in such struggle everything is permitted. Thus Machiavelli thought that a general's interest should not be restricted to purely military actions; he ought also to devise efficient methods of deceiving the enemy and employing ruses—like the spreading of false rumours—to discourage him.

Machiavelli had made the study of war a social science. He had dissociated it from considerations of ethical purpose and closely related it to constitutional, economic and political speculation. He had tried in military matters, to enlarge the field of human planning and to reduce the field of chance. Machiavelli had been the theorist for the age of unregulated war-

fare. It is hard to find until our own day such unabashed advocacy of unrestricted war.

However, Machiavelli's influence was waning by the turn of the seventeenth century. By now reactions had set in. Men like Hugo Grotius (1583-1645) were leading the attack against international anarchy and against a war of unlimited destructiveness. These founding fathers of international law announced that they found in the law of nature the precepts for a law of nations. Their central principle as Tallyrand put it once in a strongly worded reminder to Napoleon, was that the nations ought to do one another in peace, the most good, in war, the least possible evil.

THE CONCEPT OF LIMITED WARS

Up until the French Revolution wars of the 18th century were generally limited for the following reasons:-

- (a) Monarchs were generally reluctant to overthrow their brother rulers.
- (b) Armies were professional, mercenary, small and valuable. They fought solely for profit; one year they sold their services to one prince and to his rival the next.
- (c) For the mercenaries the war was a business as well as an art, in which ransom of prisoners was more profitable than killing their employer's enemies.
- (d) Because war was their trade, to prolong war rather than to end it was clearly to their advantage.

Of these soldiers Sir Charles Oman writes, "The consequences of leaving the conduct of war in the hands of great mercenary captains was that it came often to be waged as a mere tactical exercise or a game of chess, the aim being to manoeuvre the enemy into an impossible situation and then capture him rather than to exhaust him by a series of costly battles. It was even suspected that condititery like dishonest pugilists sometimes settled before hand that they would draw the game."

Thus battles were avoided and manoeuvring became the fashion. The strategy resorted to was one of attrition, not of annihilation; to exhaust the enemy, not to kill him and normally its aim was to strike at the enemy's lines of supplies and his fortress, not at his army. Daniel Defoe wrote in 1697, "Now it is frequent to have armies of 50,000 men of a side stand at bay within view of one another, and spend a whole campaign in dodging, or, as it is generally called, observing one another and then march off into winter quarters."

Fuller writes, "Restricted warfare was one of the loftiest achievements of the eighteenth century. It belongs to a class of hot house plants which can only thrive in an aristocratic and qualitative civilisation. We are no longer capable of it. It is one of the fine things we have lost as a result of the French Revolution."

THE CONCEPT OF THE UNLIMITED WAR

In 1762 with Jean Jacques Rousseau's book, 'The Social Contract', Democracy was born. By creating the myth that the sovereign will of the people is always right, he endowed the nation-state with quasi-divine sanction and the age of unlimited wars dawned upon an unsuspected world.

The period from 1740 to 1815 opening with the accession of Frederick the Great as king of Prussia and closing with the dethronement of Napoleon as emperor of the French, saw both the perfection of the older style of warfare and the launching of a newer style which in many ways we still follow.

The significant innovations concerned the constitution and utilization of armies, i.e. man power and strategy. Citizen army replaced professional army. Aggressive, mobile, combat strategy replaced the slow strategy of siegecraft. Together after 1792, they revolutionized warfare, replacing the 'limited war' of the old regime with the 'unlimited wars' of the subsequent times. This transition came with the shift from the dynastic to national form of state and was a consequence of the French Revolution. War before French Revolution was essentially a clash between rulers. Since that event it has become increasingly a clash between peoples, and hence has become increasingly total. As Dulbruck said, "...French Revolution produced a new constitution for the Army, which first brought forth new tactics, and from which a new strategy would grow." This transition was evident in the works of Frederick the Great, Guibert and Bulow.

As a theorist Bulow had the merit of sensing the nature of the military revolution of his time. This revolution was not based on technology, despite important improvements in artillery; nor was it primarily a revolution of strategy in the strict sense despite the increased mobility and striking power of an army emancipated from magazines and organised in divisions. The military revolution was at the bottom of a political revolution. The driving force of the French was their new concept. This consisted in the fusion of the government and people which the Revolution effected. On the one hand the people, in a way not possible before 1789 felt that they participated in the state, that they derived greater advantages from their government and therefore should fight for it loyally and with passion. On the other hand the government, ruled by the authority of the nation and invoking its sovereign power, could draw upon human and material resources in a way not dreamed of even by Frederick the Great. During the 19th century, the fundamental principle, the fusion of government and people was built into the political system of most European states. The wars of kings were over, the wars of people had begun.

As a consequence of this, and of Napoleon's new style of generalship, Europe was turned upside down and wars of conquest were waged for which there was no precedent since the days of Charlmagne. Technology was only a minor factor in Napoleon's success which stemmed from the political consequences of the Revolution.

NAPOLEON BONAPARTE

Napoleon was influenced a great deal by the theories of two outstanding and original military writers of the 18th century, Bourcet and Guibert. From the former, he learned the principle of calculated dispersion to induce the enemy to disperse his own concentration preparatory to the swift reuniting of his own forces and also the value of a 'plan with several branches' and of the potentialities inherent in the new distribution of an army in self-contained divisions. From Guibert he learned how to extend forces without opposing them, to embrace the enemy without being disunited and to link up the moves or attacks to take the enemy in the flanks without exposing one's own. He also learned from Guibert the prescription for the rear attack and the means of upsetting the enemy's balance and concentrating mobile artillery to shatter a key point in the enemy's front. It was Guibert's vision of a coming revolution in warfare, carried out by a man who would rise from the nation, that kindled Napoleon's imagination and ambition.

INTERPRETORS OF NAPOLEON

The scale of Napoleonic warfare, the size of the armies involved, the speed with which Napoleon moved them, the completeness of his victories, the increasingly evident intention of the French to alter the whole European state system into a new continental order dominated by France—to contemporaries all this seemed something new, something for which history gave no precedent. It was in these circumstances that Clausewitz lived and it was a reflection of them and in reaction to them that he wrote 'On War' which was published posthumously in 1832. Fuller once wrote, "In Napoleon, the Power age found its prophet; hence onwards a new Islamism was to engulf the western world. Its Koran was written by Karl Von Clausewitz (1780–1831), a Prussian General. In succeeding years it moulded the German military mind and carried the Prussian armies to victory in 1866 and 1870. Since then it had become the war creed of all nations."

Clausewitz's book 'On War' contains a deep, careful and extremely subtle analysis of the nature and functions of war. Science and Technology may have changed the nature of warfare but it would be difficult to contend that they have changed the nature and function of war. War is still, "an act of violence to compel our opponent to fulfill our will." It is still a continuation of political intercourse with a mixture of other means. Clausewitz argues that although the political aim of war is always some form of submission by the enemy, the disarmament or annihilation of the enemy's armed forces becomes the immediate or military aim. This results in a race to extremes of violence as each side attempts to disarm or annihilate the other. Such is absolute war.

Real war however is not like that because it is never an isolated act, is not settled by a single, instantaneous blow and does not produce completely final results. The political aim therefore reappears and controls the course of a war by determining how and to what lengths it is conducted. Indeed

war in real life is a political instrument. That is why for instance, the military point of view ought to be subordinate to the political, even in war.

Clausewitz although a superlative theoretician was also a supreme realist. He stripped away false sentiment from war, its colourful trappings and revealed for what it was. He wrote, "Let us not hear of generals who conquer without bloodshed. If a bloody slaughter is a horrible sight, then that is ground for paying more respect to war but not for making the sword we bear blunter and blunter by degrees from feelings of humanity until someone steps in with one that is sharp and lops off the arm from our body."

Clausewitz has also given us a language for the study of war. Friction, people's war, limited objective, superiority of numbers, strategic means of utilizing victory, subsistence, command of ground, diversion, interdependence, strategic reserve, culminating point of attack and centre of gravity were words originally coined by him.

'On War' is mainly concerned with continental land warfare mainly of the Napoleonic era. Hence he is incomplete, since he does not deal with maritime strategy or naval warfare and out of date, because he has been overtaken by aeroplanes, missiles, nuclear weapons and such other deadly items of modern military inventory. He also ignores economic warfare.

However, many of the writers of nuclear strategy, particularly Aaron, Schelling and Kahn base a great deal of their thinking on Clausewitz and can more easily be understood if one has read him first.

ANTOINE HENRI JOMINI (1779-1869)

With Clausewitz, whom he antedates a bit, Jomini may be said to have done for the study of war something akin to what Adam Smith did for the study of economics. Though there were important works of war before the writings of Jomini, his systematic attempts to get at the principles of warfare entitles him to share with Clausewitz the position of co-founder of modern military thought.

Jomini who was the chief of staff of Marshal Ney at the battle of Austerlitz had talked and thought a great deal about the art of war. Napoleon himself read Jomini and was impressed with the intuitive understanding of the Napoleonic touch.

Jomini took up the study of warfare to make some sense of what war was all about. He started out in definite reaction against such statements as the famous one of Marshal De Saxe, "War is a science covered with darkness, in the midst of which one does not walk with an assured step... All the sciences have principles, but that of war as yet none." Jomini however maintained that it is capable of discerning and stating in some systematic form methods which are likely to form the essence of success in war, and methods which are not likely to bring success. "There have existed at all times, fundamental principles on which depends good results in warfare... These principles are unchanging, independent of the

kind of weapons, of historical time and place." Jomini believed that the practice of warfare could be reduced to a set of general rules which could be learned and applied in all situations.

At several points Jomini comes very close to Clausewitz's famous doctrine that the object of war is the destruction of the enemy's armed forces. Nevertheless, Jomini stands on a fundamentally different ground from Clausewitz. The central problem in warfare, in Jomini's opinion is the choice of correct lines of operations and the most important objective of the commanding general is the domination of the zone of operations in which he is engaged. In short Jomini was thinking primarily not of the annihilation of the enemy but of acquisition of territory. For that very reason Jomini had a marked preference for the offensive and even on the defensive he recommends an offensive—defensive strategy.

In contrast to Clausewitz who bent his mind to the nature and essential spirit of war, Jomini stands in the history of military thought as the theorist of strategy. He was not interested in the philosophical problems arising from the concepts of war-in-essence and war-in-being; he confined himself to what in his mind were the practical issues involved in warfare. By defining the place of strategy in warfare, Jomini was able to distinguish clearly between strategy and such other fields of military activity as tactics and logistics.

NAVAL AND AIR STRATEGY

Two theorists who are always given particular prominence in the evolution of strategic thought are Admiral Alfred T Mahan (1840–1914) and the Italian general Giulio Douhet (1869–1930). The former was known as the 'Evangelist of Sea Power' while the latter was called 'Mahan of Air Power'. Both men stressed the decisiveness of his own medium of warfare.

For Mahan command of the sea was decisive for national growth and prosperity in peace and security in war; for Douhet, command of the air was the critical consideration in a future war. Both men however made faulty judgements. While command of the sea and air would remain decisive factors in strategy, neither could be independently decisive. Technological and geopolitical developments were changing traditional importance of sea power, while air power, certainly in conventional terms, did not change radically the character of war. From his historical studies, Mahan discovered that commerce raiding had never been decisive. But the discovery of submarine and the concept of total war proved him wrong. The importance attached to strategic bombing by Douhet was in the same manner nullified by the proven results of bombing of the Second World War.

THE STRATEGY OF INDIRECT APPROACH

Since 1929, the name of Sir Basil Liddell Hart has been associated with the concept of the strategy known as the 'Indirect approach'. He examined 280 campaigns spread over 2000 years of warfare before he began to formulate his major concept. In only six of these did a decisive result follow a plan

of direct strategic approach to the main army of the enemy. Even these six campaigns, when analysed provided little justification for the adoption of the direct methods of strategy.

During the survey one impression becomes increasingly strong—that, through the ages, effective results in war have rarely been attained unless the approach had such indirectness as to ensure the opponent's unreadiness to meet it. The indirectness has usually been physical and always psychological. Liddel Hart writes, "In strategy, the longest way round is often the shortest way home."

Sherman's campaigns had the greatest influence on the formation of Liddel Hart's theories, "While the concept of deep strategic penetration by a fast moving armoured force had developed originally in my mind when studying the Mongol campaigns of the 13th century, it was through exploring the rival operations of Sherman and Forrest that I came to see more clearly its application against modern armies".

STRATEGY IN THE NUCLEAR AGE

The advent of nuclear weapons have assured in an era of revolutionary strategic concepts which are more complicated than the too simplistic models of classical strategy. The problems of nuclear deterrence, the calculation of military probabilities, operational analysis, the construction of plausible scenarios and the use of abstract models have added new dimensions to strategic concepts.

Most of the nuclear strategies today are civilian academic strategists. Two profound writers amongst a host of others are Bernard Bordie and Herman Kahn. Bordie noted for his early interpretations of the significance of nuclear weapons became one of the first formulators of the theory of limited war. He shows genuine concern for the society within which war exists and with which it deals so harshly. He explored the vital relationship between strategy and politics—and the general failure to observe it—in the last four wars the USA has fought. He also deals extensively on the changing social attitudes towards war, the inadequacy of popular theories purporting to explain the causes of war, the ambiguity of vital interests for which nations are so ready to fight and the nature of the people who plan war and fight it.

Herman Kahn, one of the most influential military strategists in USA states that though nuclear war may seem highly unlikely indeed unthinkable to many people—it is not impossible. We must strive to solve our problems by peaceful means. But we must at least consider the possibility that we may fail. A nation must consider the possibility that it may come to face with a blunt choice between war and surrender. Hence one has to face all the possibilities. Kahn also elucidates the increasingly dangerous problems brought about by the continuation of the arms race and the spread of nuclear weapons among many nations. He makes the case that only by a world government can we achieve a reasonable degree of safety.

Thanks to these civilian academic intellectuals led by Herman Kahn, Bernard Bordie, Schelling, Aaron and Kissinger a new set of theories have emerged in the nuclear age. These are discussed in the succeeding paragraphs.

THE THEORY OF MASSIVE RETALIATION

This theory is an interpretation of past US policy as announced by John Foster Dulles in 1954, "... the way to deter aggression is for free communities to be willing and able to respond vigorously at places and with means of our own choosing...". The essence of this interpretation is that any aggression, even if minor or carried out by proxy, would be met by a nuclear strike on the Soviet Union. This policy had the attraction of economy, since all US interests anywhere in the world were to be protected vis-a-vis the Soviet Union by strategic nuclear weapons only—thus obviating the need to maintain large non-nuclear forces.

This US policy has been criticized on the grounds that it would be ineffectual, since the threat would not be credible. For example, the Soviet leadership would not be deterred from organizing infiltration in, say, Laos, since they would refuse to believe that the US response to this would take the form of nuclear first strike against the USSR, thus initiating a general nuclear war. In other words, US dependence on this policy would lead to a series of unacceptable choices between capitulation or mass destruction over each local crisis. Massive retaliation was however never the central US policy, and was in any case associated with the diplomatic technique of brinkmanship. It was essentially an intellectual concept, an attempt to equate balance of power with the balance of terror in order to save money on the non-nuclear elements of US armed forces.

THE THEORY OF BALANCE OF TERROR

It is an equilibrium between powers based only on each side's possession of particular weapons which allow each party to cause unacceptable damage to others. This is as opposed to the classical concept of the 'balance of power', where all sources of strength and weakness are assumed to produce an equilibrium which does not rely on particular items of equipment, and is thus stable, and operative at all levels of the relationship. The 'balance of terror' is seen as unstable, because the introduction of new weapon systems—or the expectation on the part of others that this is or will be taking place—can shatter the equilibrium. The 'balance of terror' is usually thought of as being effective only in extreme situations, as when vital interests are challenged.

The term 'balance of terror' may have originated with J Robert Oppenheimer, who described the USA-USSR relationship as that between two scorpions in a bottle, each able and unwilling to sting the other fatally. Albert Wohlstetter has pointed out that if both the super-powers were ever able to destroy each other completely, 'it would be extraordinarily risky for one side not to destroy the other, or to delay doing so... since this is the sole way it can reasonably emerge at all from the conflict'.

THE THEORY OF ASSURED DESTRUCTION

A concept associated with the strategic policies of Robert McNamara and usually defined as 'the capability of deterring deliberate nuclear attack upon the US and its allies, by maintaining, continuously a highly reliable ability to inflict an unacceptable degree of damage upon any single aggressor, or a combination of aggressors, at any time during the course of a strategic nuclear exchange, even after absorbing a surprise "first strike"'. Perhaps surprisingly, a quantitative measure of the damage which is thought to be unacceptable to the enemy (Soviet Union) has been published; 'about one fifth to one third of the population and one half to two-thirds of the industrial capacity'. This requirement, translated in terms of nuclear warheads delivered on targets, means that about 400 megaton—equivalents are required to achieve the minimum population destruction figure.

Due to certain 'degradation factors' like maintenance, reliability and the effects of enemy activity, it is estimated that out of 1,000 missiles deployed about 370 would reach their intended target. Since 400 megaton equivalents are held to be required for deterring the Soviet Union, the force to be deployed works out to be something upto 2,200 megatons.

This way of looking at strategic deployment policies provided a logical framework for limiting weapon requirements to a given number of offensive weapons. It is implicitly an offence-only formula since the effects of an ABM, in terms of casualty reduction, are not taken into account, while an ABM to protect the deterrent is not envisaged. In fact, the advocates of assured destruction campaigned vigorously against ABM development in general, since it seemed to them that the arms race between the two super-powers could be stabilized when both sides had an assured destruction capability. They therefore, all but encouraged the Soviets to catch up with the US in offensive missile deployments while they deplored the Soviet deployment of an ABM. The new rules of the game—accurate warheads which have high probabilities of killing hard silose—make an offence-only strategy obsolete since only an ABM can absorb a substantial enemy strike potential without leading to an arms race.

THE THEORY OF FLEXIBLE RESPONSE

It is a policy in which the response to enemy attack is deliberately kept within certain definable limits, on the assumption that the enemy recognizes the existence of these limits and also the element of deliberation in keeping within them. The policy implies the following;—

- (a) the existence of mutually recognized degrees of conflict known as 'Threshold'. It is the recognizable demarcation lines between levels of violence in conflict between states. The value of the concept lies in its application to nuclear war, once widely thought of as automatically total. A set of thresholds is implicit in the policy of flexible response. This would include at least the

following thresholds:-

- (i) Sub-megaton weapons used on the battlefield.
 - (ii) Any nuclear weapons used in 'not-homeland' targets.
 - (iii) Recognizably selective nuclear strike on homeland.
 - (iv) 'Spasm', a term used by Herman Kahn to describe the situation where a state about to die simply uses all the nuclear delivery means at its disposal.
- (b) a comparable range of weaponry.
- (c) a comparable range of targets.

In the absence of such symmetry, the stabilizing effect of the policy will be impaired. If for example A destroys a 'medium' target but lacks 'medium' target itself, B will be forced either to show weakness by attacking a 'small' target or to escalate by attacking a 'large' target.

The adoption of a policy of flexible response implies the development of a full range of military capabilities, as opposed to the earlier policy of massive retaliation for which in theory only nuclear weapons were needed. Because of this requirement, a state going from a massive retaliation to a 'flexible response' posture may be seen by its opponents as merely engaging in an arms race with respect to conventional weapons. 'Flexible response', the current US policy, is sometimes described as 'Controlled Response'.

CONCLUSION

It is hoped that even a cursory study of strategy will enable us to understand what war is all about so that we may learn to avoid war. In this age of imminent nuclear holocaust, society must learn of the deeper implications of war. Let it not be said of this generation that we have not taken heed of Fuller's criticism," The conduct of war like the practice of medicine is an art because the aim of the physician and surgeon is to prevent, cure or alleviate the diseases of the human body; so should the aim of the statesman and soldier to prevent, cure or alleviate the wars which conflict the international body. Unfortunately this has been little appreciated and while in recent times the art of healing has been placed on a scientific footing, the conduct of war has remained in its alchemical stage; worse still, during the present century it has reverted to its barbaric form of destruction and slaughter."

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MUTINY ON THE BEAS

MAJOR GENERAL S K SINHA, PVSM

INTRODUCTION

Alexander was the greatest military captain of antiquity, if not of all times. His triumphant 11000 miles march from Hellenspot to Hyphasis (Beas), spanned the three known continents of his time—Europe Africa and Asia. It provided the backdrop for the display of his unique strategical and tactical genius. His campaigns were an unbroken chain of success, surmounting numerous obstacles and innumerable foes. However, despite his brilliant run of victories, he had to accept defeat at the hands of his own troops. His soldiers mutinied on the banks of the Beas in 326 B.C. This forced Alexander to retrace his steps.

The mutiny is said to have been due to the soldiers being tired and home-sick. This is the explanation offered by most European historians and is duly repeated by many of their Indian counterparts. It is also stated that the summer heat of the Indian plains was too oppressive for the European soldiers and they wanted to return to the cool climate of their homes. The validity of these explanations must be carefully examined in the light of facts as enumerated by contemporary or neo-contemporary historians.

Military history is often subjected to emotional distortion on account of patriotic reasons. To guard against this and to ensure an objective analysis, an Indian student examining this issue would be well-advised to rely solely on relevant statements of European sources.

ADVANCE TO THE BEAS

AFTER his decisive victory at the battle of Arbela in 331 B.C and the death of Darius II, Alexander proclaimed himself as the Lord of Asia. In pursuit of his claim over all territories once under Persian rule, he now cast his eyes towards the Punjab which had been part of the Persian Empire under Darius I. It is said that he was also fired with ambition to reach the end of the Earth and find out if the Nile originated from the Indus. Aristotle, who had accompanied Alexander, believed that the Earth was flat and was surrounded by Oceans on either side; in the West, beyond the Pillars of Hercules (Western end of the Mediterranean) lay the Western Ocean and in the East, beyond India lay the Eastern Ocean. He thought that India was a peninsula of not much depth jutting eastwards from the Hindu Kush;

standing on top of the Hindu Kush one would see land's eastern extremity being washed by the waters of the Ocean.

While Alexander was planning his campaign of conquest and exploration, Sasigupta the ruler of Gandhara, came to him. Sasigupta's kingdom lay between the Kunar and the Indus rivers. He brought an invitation to the Great King from Ambhi, the ruler of Taxila, between the Indus and the Jhelum rivers. The latter sought Alexander's assistance to settle scores with his neighbour, Porus, who ruled over the strip of territory between the Jhelum and the Chenab rivers. Sasigupta and Ambhi set a pattern of traitorous conduct, which unfortunately was to be repeated too often by successive generations, whenever India was invaded by foreigners.

During the period that Alexander was maturing his plans for the invasion of India, he received large reinforcements from home. According to Curtius a fresh draft of 19,400 foot and 2,600 horse joined him prior to his Indian campaign*. Pierre Jouguet estimates that between the battle of Arbela and the invasion of India, Alexander received reinforcements totalling 41,000 foot and 6,530 horses.[§] We are further told that Alexander recruited Persians into his army. In addition, the soldiers of Sasigupta and Ambhi were also now available to him.

In the early summer of 327 BC, at the head of an army of 120,000, Alexander set out for India and crossed the Hindu Kush. Ambhi and some other Rajas in area West of the Indus, duly met him and offered their homage. Alexander now divided his army into two columns. One column with all the heavy baggage under Hephaestion and Perdikkas, moved down the Kabul river to the Indus, with orders to build a bridge near Attock. Ambhi accompanied this column. The other column under Alexander took a northern route following the Kunar river into Bajaur and Swat, with a view to protecting the left flank of the column advancing along the Kabul river. The two columns were to effect a junction on the Indus.

During his advance through Bajaur and Swat, Alexander subdued different tribes. A tribe known to the Greeks as Assaceni, who had 30,000 infantry and 2,000 horsemen offered stiff opposition at Massaga in Swat. This tribe had obtained the services of 7,000 Indian mercenaries from beyond the Indus. They were the mainstay of defence. After four days of siege, the Indian mercenaries whose leader had been killed, sought truce. Alexander permitted them to come out of the fortress and allowed them to harbour on a hillock close to his camp. "He was glad to preserve the lives of brave men; so he came to terms with the Indian mercenaries on this condition that they should be admitted into the ranks with the rest of his army and serve as his soldiers".** However, the same night, he surrounded

*Quoted by Major General JFC Fuller in his book, *The Generalship of Alexander the Great* (Page 124).

§ *Macedonian Imperialism and Hellenisation of the East* by Pierre Jouguet (Page 78).

Arrian.

**Arrian.

the Indians and slaughtered them. Thereafter he stormed the weakened garrison in the fort. The massacre of these 7,000 Indian mercenaries at Massaga is sought to be justified on the plea that a spy had reported to Alexander of their wanting to escape.*

Alexander's column joined his other column on the Indus at Ohind, sixteen miles above Attock. A bridge of boats had been constructed at this point and the entire expeditionary force advanced across it to Taxila, the capital of Ambhi. After celebrations and festivities at Taxila, Alexander got ready to advance further East. News had come in of Porus having taken the field to oppose his advance. He had spurned Alexander's demand to surrender and had sent word that he would meet him on the battlefield.

Alexander advanced to the Jhelum, where he found Porus holding the eastern bank of the river. The stage was now set for the famous battle of Jhelum of 326 B.C., referred to by the Greeks as the Battle of Hydaspes. Fuller ranks this battle along with Granicus, Issus and Arbela, as one of the four great battles fought by Alexander and refers to "this most famous of Alexander's campaigns". In Hogarth's opinion this battle coupled with the crossing of the river ranks "among the most brilliant operations of ancient warfare".** However, the fact remains that this battle was a very unequal fight. On the one side there was one of the greatest captains of War with the vast resources of Greece, Egypt and the Persian Empire at his disposal together with assistance from his Indian allies, and on the other side was a relatively unknown border chieftain ruling over a forty-mile strip of territory between the Jhelum and the Chenab which was even smaller than the kingdom of Ambhi. However, what Porus lacked in military genius and material resources was made up by two factors—his spirit of patriotic defiance and the major obstacle posed by the river. Monsoon was at its height and the Jhelum was in flood. Alexander had to force a passage across this formidable obstacle and bring Porus to battle where he could destroy him and his army. The military genius of the invincible Macedonian surmounted this problem and he gained a decisive victory.

There are different theories with regard to the location where this battle was fought. Sir Alexander Burnes and Monsieur Court have argued that it was near the present city of Jhelum where the Grand Trunk Road crosses the river. General Alexander Cunningham has maintained that the battle took place at Jalalpur, thirty miles South of Jhelum. Sir Aurel Stein has suggested Haranpur further South of Jalalpur as the locale of the battle because its topography fits in more closely with the description of the country as given by contemporary Greek historians. The actual location of the battlefield is not relevant in connection with the subsequent mutiny on the Beas. However, the broad course of the battle and its results, on which there is consensus among all historians, are intimately connected with this mutiny.

*The Generalship of Alexander the Great by Maj Gen JFC Fuller (Page 246).

**Philip and Alexander of Macedon (Page 239).

According to Fuller the total strength of Alexander's army at Jhelum was 8,000 cavalry and 18,000 infantry including 5,000 soldiers provided by Ambhi. Sir William Tarn places the strength of his cavalry at 53,000 and his infantry at 15,000. Ulrich Wilken has stated that Alexander crossed the Hindu Kush into India with an army of 120,000.* This figure is also confirmed by Vincent Smith who mentions that Alexander retreated from India going down the Jhelum and the Indus in 2,000 vessels protected by an army of 120,000 men marching on either bank of these rivers.** In the light of these figures, the strengths mentioned by Fuller and Tarn of Alexander's army at Jhelum appear to be gross underestimates. Fuller reckons that the army of Porus comprised 4,000 cavalry, 30,000 infantry, 300 chariots and 200 elephants. Figures quoted by Diodorus are 50,000 foot, 3,000 horses, 1,000 chariots and 130 elephants. It is not unlikely that the strength of Porus has been deliberately exaggerated and that of Alexander conveniently reduced to give greater credit to the victorious feat of the Great Conqueror. Be that as it may, it appears obvious that Alexander enjoyed considerable numerical superiority, particularly in his cavalry arm.

Alexander's stratagem for crossing the river was unique. He tired the Army of Porus with feints at different points, showing attempts at crossing the river. This went on for some days. On the crucial night, he divided his force into two groups. A holding force of 3,000 cavalry and 8,000 infantry under Craterus remained opposite Porus on the Western bank showing normal activity so as to lull Porus into a false sense of security. A turning force under Alexander comprising 5,000 cavalry and 10,000 infantry moved upstream along the western bank keeping some distance from the river, so that its movement would not be observed from the far bank. As per one theory this force moved up seventeen miles and as per another only eight miles, after which it effected an unopposed crossing of the river. On the night of the crossing there was a heavy downpour when "the noise of the thunder, drowned with its din the clatter of the weapons". It was by all standards a remarkable feat to cross the swollen Jhelum in one night with a force of 5,000 cavalry and 10,000 infantry and without alerting the defenders. The following morning Porus received news that the Greeks in strength had managed to cross the river upstream. He sent his son with 2,000 cavalry and 120 chariots for a reconnaissance in force. Alexander quickly overwhelmed this detachment and the son of Porus was killed. Porus got news of this disaster and realised that the main Greek army had crossed the river. He moved up with the bulk of his army to meet this threat. In the battle that ensued Alexander's overwhelming superiority in the cavalry arm had a telling effect. The Indian cavalry was soon decimated and ceased to exist as a fighting force. The Indian archers fighting from their chariots were not as competent as Alexander's bowmen nor as

* Alexander the Great by Ulrich Wilken (Page 177).

** The Early History of India by Vincent A Smith (Page 90).

mobile in the slippery state of the ground. The Indian infantry could not exploit its formidable long bow because the ground was too slushy to properly secure the bow with the archer's foot. The Indian elephants were, however, a new factor in battle for the Greeks. Initially they scared them but the Greeks soon regained their composure and tackled these beasts in a determined manner. Describing the scene, Arrian wrote, "Many of the elephant drivers had been shot down, and of the elephants themselves some had been wounded, while others both from exhaustion and the loss of their mahouts, no longer kept to their own side of the conflict, but as if driven frantic by their sufferings, attacked friend and foe indiscriminately, pushed them, trampled them down and killed them in all manner of ways". While Porus was so engaged with Alexander, Craterus who had also now crossed the river came upon the Indians from the rear. His fresh troops completed their route and took on the pursuit. Alexander won a decisive victory. However, despite his heavy losses and the several wounds suffered by him, Porus continued fighting till the end. He was ultimately captured and brought before Alexander.

Though completely outgeneralled, decisively defeated and severely wounded, Porus was not dispirited by his misfortune. On being questioned as to how he would like to be treated, he proudly replied, "As a King". We are told that Alexander who had already been impressed by his personal bravery was very pleased with this reply. He restored him to his kingdom and entered into an alliance with him. Alexander was too shrewd a general to do so only for reasons of chivalry or magnanimity. As in the case of Mazaeus who had valiantly commanded the right wing of the Persian Army at Arbela and whom Alexander restored to the satrapy of Syria, the conciliation of Porus was an act of policy to ensure a secure rear for a further advance.

The casualties suffered by both sides in the battle of Jhelum have been assessed differently by Arrian and Diodorus. According to Arrian, the Indians suffered 20,000 infantry and 3,000 cavalry killed, with all their chariots destroyed and their surviving elephants captured; and the Macedonians lost only 8 infantry, 10 horse-archers and 220 cavalry killed. Diodorus on the other hand mentions that the Indians lost 12,000 killed and 9,000 captured as against the Macedonians loss of 280 cavalry and 700 infantry killed. The figures quoted by Diodorus appear nearer the truth. We must, however, remember that in both these cases we only have the Greek version of what happened. These figures cannot be checked from any Indian source. In this connection it is interesting to reflect what posterity may have to say of casualty figures in any of the wars of the twentieth century if only the version of one side is available to it. However, without disputing the casualty figures given by Arrian or Diodorus, we can come to the following conclusions:-

- (a) The casualties suffered by the Indians must inevitably have been much higher than those of the Macedonians: the Macedonians too must have suffered substantial casualties.

(b) The casualties suffered by the Greeks in this battle were higher than those suffered by them in any of the great battles fought by Alexander. Greek casualties in these battles as mentioned by different Greek sources were as follows:-

- (i) Battle of Granicus — 115 killed as per Arrian.
- (ii) Battle of Issus — 450 killed as per Curtius.
- (iii) Battle of Arbela — 100 killed as per Arrian but 500 killed as per Diodorus.
- (iv) Battle of Jhelum — 238 killed as per Arrian but 980 killed as per Diodorus.

After the battle of Jhelum, Alexander ordered a city to be built at that site to be named after his favourite old horse Bucephala who had been killed in this battle. Thereafter, to escape the scorching heat of the plains, he moved his army for a respite into the hills around Naoshera in the province of Jammu. Curtius writes that here the air was cooler "for the shade tempers the force of the Sun". Having relaxed in the hills, Alexander came down to the plains and crossed both the Chenab and the Ravi subduing minor opposition enroute, including that of the nephew of Porus, who ruled between these two rivers. After crossing the Ravi, Alexander advanced against the city of Sangala (unidentified) which was somewhere in the present Gurdaspur or Amritsar district, possibly the former. The resistance offered in front of the city was soon overcome and thereafter Alexander ordered the massacre of 17,000 inhabitants in that city. As in the case of his similar action at Thebes in Greece, this may have been done to strike terror in the minds of the people. From Sangala, he advanced to the Beas.

THE MUTINY

The ever-victorious army of Alexander mutinied on the banks of the Beas. It refused to advance further into the rich Gangetic plains. Alexander made an impassioned appeal to his troops reminding them of their invincibility and their unbroken chain of success against all odds in their triumphant advance from Hellenspot to the Hyphasis (Beas). He urged them not to hesitate when they were on the verge of reaching the Eastern Ocean and the land's eastern extremity. He also lured them with promise of plunder as the territory beyond the Beas was teeming with riches.

Alexander's oratory had little effect. His men remained firm in their demand to call off further advance and return home. Koinos, the spokesman of the soldiers spoke to Alexander, "Do not lead us against our will; for then thou will no longer find us the same men in regard to dangers, since free-will will be wanting to us in the contests"*. Alexander retired to his tent and refused to see anyone for three days. He brooded in his tent and possi-

*Arrian.

bly realised the dangers inherent in forcing an unwilling army to advance against a powerful enemy. It can be assumed that his spies must have given him some idea of the strength of the Magadhan ruler whose territory covered the entire Gangetic plain. He always employed spies to gain prior information of the territory into which he advanced and there is no reason to suppose that he would have departed from this practice on this occasion. Ultimately, Alexander announced his decision to retreat. His soldiers rejoiced wildly and said that "because of them alone he suffered himself to be conquered*".

The Greek Army marched back to the Jhelum and from there went down the river to its junction with the Indus and thence to the mouth of the Indus. Enroute, the countryside was ravaged and the people massacred in thousands. During the assault on the Mallian capital, Alexander was wounded and this provided an excuse for merciless slaughter of thousands of women and children.** "It is said that during the campaign of Lower Indus 80,000 of the natives were killed and multitudes sold as slaves-†". On reaching near the mouth of Indus, Alexander despatched a portion of the Army under Nearchus to sail along the coast and join him in Persia. With the rest of the Army, he marched across the desert through Baluchistan and Makran. After a terrible sixty days march across waterless country in which the Army lost nearly all its baggage and transport animals, he reached Gawdur in Persia. Thus ended Alexander's invasion of India. His advance to Beas was the high water mark of this campaign, but it was also on the banks of this river that the Conqueror tasted for once the bitterness of "defeat"; he had to bow before the will of his troops.

In the light of the above narrative, we may now examine the possible reasons for the mutiny on the Beas. The oppressive heat of the plains can hardly be accepted as the cause for the mutiny. A close examination of facts will reveal that this theory is untenable. The battle of Jhelum was fought at the height of the monsoon. Then as now, monsoon comes later in these parts than in Eastern India. We can therefore assume that this battle was fought in July or August, more likely in August. Thereafter some time should be allowed for rest and victory celebrations like holding of games etc., as was the common practice of the Greeks. The army went up for a sojourn in the hills around Naoshera and after fighting some minor battles it crossed the Chenab and the Ravi to advance to the Beas. On a conservative estimate, all this would account for about two months from the Battle of Jhelum to the mutiny on the Beas. On this basis, the mutiny could not have occurred before October. This assessment of time broadly fits in with the description of the weather before the mutiny as given by Diodorus, "It also so happened that violent storms of rain burst from the

*Ibid.

** The Generalship of Alexander the Great by Fuller (Page 133).

+ The Early History of India by Vincent A Smith (Page 82).

clouds for the space of seventy days accompanied with continual outbreaks of thunder and lightning"* . As we know too well, after over two months of heavy monsoon, autumn invariably sets in and the Punjab climate is no longer oppressive. Vincent Smith reckons that the mutiny took place in September 326 B.C. and that the Greek Army began its retreat in September/October 326 B.C. All this amply repudiates the theory regarding oppressive heat. October is the time when the Punjab climate begins to become bracing and winter is round the corner.

The other explanation for the mutiny of the troops being tired and home-sick, should be viewed in the context of the arguments that follow. Firstly, physical tiredness of soldiers is a state which is quickly overcome by a few days or at best a few weeks of rest and relaxation in a camp. Secondly, a large portion of the soldiers at Beas must have been fresh reinforcements who had joined Alexander after the battle of Arbela. As already stated, Curtius mentions 19,400 foot and 2,600 cavalry and Pierre Jouget estimates their strength as 41,000 foot and 6,550 horse. These reinforcements had joined Alexander before he reached the Beas. We are further told by Diodorus that soon after the mutiny more reinforcements joined him. Their strength given by him are, "more than 30,000 foot and not much less than 6,000 cavalry. Splendid suits of armour besides were brought for the infantry to the number of 25,000 and 100 talents of medical drugs⁺⁺". The Greeks could not be unaware of the expected arrival of these reinforcements in a few days or weeks, when the mutiny occurred. The reinforcements that had joined or were to join Alexander could not have been all that tired and home-sick as the veterans who had eight years earlier crossed into Asia with him. Moreover, Alexander was also served by a large number of Persian and Indian soldiers. Thirdly, if the army was really tired and home-sick, the more natural thing would have been for the rearward march to be conducted along a known and friendly route through Peshawar to Persia, instead of venturing out on an unknown route through the desert entailing a longer journey of over 1,000 miles. Fourthly, a victory in battle has always been known to be a great tonic for the morale of soldiers. If anything, this must have been more so in the days of Alexander with all the promise of plunder and reward. A victorious army confident of more victories and of rich plunder in the Gangetic plains, could hardly have mutinied. Was it that the Army had lost confidence in further victory? Lastly, if we accept that the army was tired and home-sick at Beas in 326 B.C, it stands to reason that a year later at Ophis in Persia these feelings should have been more acute among the soldiery. When Alexander was returning his old veterans to Greece from Ophis, his Greek soldiers mutinied again and demanded that they all be sent back home. Alexander spoke to his men reminding them of their great victories and telling them what their people at home would

* Quoted by McCrindle in *The Invasion of India by Alexander the Great* (Page 283).

++ Diodorus Chapter XCIV quoted by McCrindle.

say if they left their King in a strange land at the mercy of strange people. We are told that this time his oratory had effect and the soldiers responded. There was no more talk of going back home. This only suggests that the difference between the mutiny on the Beas and at Ophis lay in the fact that in the case of the former there was fear in the minds of the Greek soldiers regarding the consequences of crossing the river.

While examining the theory of tiredness and homesickness, it has been indicated as to what really could be the real cause of the mutiny. We have seen that according to Greek sources, the casualties suffered by Alexander's army in the battle of Jhelum were higher than in any other battle fought by him. The elephants had initially caused havoc and scare. Would it in the circumstance be unnatural for Alexander's soldiers to feel hesitant to face the much larger army of the Magadhan Emperor after their experience with the army of a mere border chieftain who ruled over a small strip of territory hardly 40 miles wide, between the Jhelum and the Chenab** Porus had only 200 elephants; the Nanda ruler of Magadha was known to have 6,000 war elephants. In support of this suggestion, the views expressed by eminent neo-contemporary Greek historians are very pertinent. Plutarch in his life of Alexander* writes, "But the combat with Porus abated the spirit of the Macedonians and made them resolve to proceed no further in India. The opposite shore was covered with number of squadrons, battalions and elephants for the Kings of Candarites and Praesians were said to be waiting for them with 80,000 horses, 200,000 foot, 8,000 chariots and 6,000 elephants trained to war. Nor is the number at all magnified for Androcothus (Chandragupta) who reigned not long after, made Selucus a present of 500 elephants at one time and with an army of 600,000 men traversed India and conquered the whole++". Diodorus while giving a general description of India has stated, "It is inhabited by very many nations, among which the greatest of all is that of Gangaridai, against whom Alexander did not undertake an expedition deterred by the multitude of their elephants".

The versions of Plutarch and Diodorus are to an extent corroborated by Alexander's speech to his soldiers at the time of this mutiny. Curtius Rufus* writes that on this occasion Alexander spoke thus to his men, "I am

** The Generalship of Alexander the Great by Fuller (Page 181).

* Plutarch's Lives (Page 213)

++ Plutarch has not stated the full story regarding the present of 500 elephants. On Alexander's death, Selucus one of his veteran generals who had accompanied him throughout his trans-continental victorious campaigns, succeeded to his eastern Empire. After consolidating his position from the Mediterranean to the Indus, Selucus advanced into India in 305 BC to recover Punjab which had thrown off the Greek yoke. By then, Chandragupta Maurya had consolidated his rule over almost the whole of India. He met the invader in the battle of Indus in 305 BC and decisively defeated him. Thereafter the contestants agreed upon peace. Their relations were cemented with a matrimonial alliance with the daughter of Selucus and with the Greeks ceding the provinces of Kabul, Kandhar and Herat which were incorporated into the Indian Empire. Selucus sent an ambassador (Megasthenes) to the court of Chandragupta and Chandragupta presented 500 war elephants to Selucus.

*Quoted by McCrindle—Ninth Book Chapter II.

not ignorant soldiers that during these last days the natives of this country have been spreading all sorts of rumours designed expressly to work upon your fears..... Who but till the other day believed that it was possible for us to bear the shock of these monstrous beasts that looked like so many ramparts, or that we could have passed the Hydaspes or conquered other difficulties which after all were more formidable to hear than they proved to be in actual experience..... Can you believe that the herds of elephants are greater than of the other cattle when the animal is known to be rare, hard to be caught and harder still to tame? It is the same spirit of falsehood which magnifies the number of horse and foot possessed by the enemy..... We have already reached the Sunrise and the Ocean, and unless your sloth and cowardice prevent, we shall thence return in triumph to our native land, having conquered the Earth to its remotest bounds..... The prizes before you are greater than the risks, for the country to be invaded only teems with wealth, but is at the same time feebly defended. So then I lead you not so much to glory as to plunder”.

It would thus be seen that the only rational explanation for the mutiny on the Beas was that the Greek soldiers were demoralised and had no stomach for further fight against a powerful foe who had a large number of war elephants. This brings out that though Porus suffered a tactical defeat at Jhelum, he succeeded in his strategic aim of halting the invader's aggression into his country. On the other hand, despite his great tactical victory, Alexander was frustrated in achieving his strategic aim of advancing to the Eastern Ocean.

One might speculate as to what might have happened if the mutiny had not occurred and Alexander had advanced across the Beas. Would Alexander advancing into vast Indian space have suffered the same fate as overtook Charles XII, Napoleon and Hitler in Russia? On this point, the views of Vincent Smith despite all his full-throated praise for the prowess of European soldierly qualities, is of interest. He writes, “If his soldiers had permitted him to plunge more deeply into the interior, he would probably have been unable to maintain the communication with his European base on which his safety depended and his small isolated force might have been overwhelmed by the mere numbers of his adversaries. Koinos and his fellow remonstrants may be credited with having prevented the annihilation of the Macedonian Army”.+

An interesting incident that occurred at the time of this mutiny must also be mentioned. Chandragupta, then a young prince in exile from Magadha, is reported to have visited Alexander's camp to learn Greek military ways. According to Justin, he incurred the wrath of Alexander, who ordered that he be executed. He, however, managed to escape. We know that in Arthashastra written by Chandragupta's preceptor, Chanakya, great emphasis is laid on demoralising the enemy army before engaging

+ The Early History of India by Vincent A Smith (Page 111-112).

in battle. A somewhat similar idea was propounded by Sun Tzu in China when he wrote, "Those skilled in war, subdue the enemy's army without battle". Is it possible that while in Alexander's camp, Chandragupta carried out propaganda designed to demoralise the Greek Army. Alexander's speech as given by Curtius Rufus would tend to support such an assumption. This may well be the first recorded instance in history of successful psychological warfare and that too against one of the greatest captains of all times.

CONCLUSION

History is a record of individuals who are no longer there to defend themselves or to present their point of view. Therefore, a student of history must ensure that his approach is based on facts and his interpretation of those facts is objective. While narrating events leading upto the mutiny on the Beas and analysing the possible causes for it, no attempt has been made to denigrate the achievements of Alexander. His unique position in military annals cannot be questioned. However, at the same time we cannot allow ourselves to be blinded by the brilliance of his military achievements. Vincent Smith appears to have suffered from this and also perhaps from a sense of European chauvinism when he wrote, "The triumphant progress of Alexander from the Himalaya to the sea demonstrated the inherent weakness of the greatest Asiatic armies when confronted with European skill and discipline"⁺. Some European historians even tend to look upon Alexander as carrying the "White Man's burden" and extending the "civilizing influence" of the West to the barbarians in the East. Alexander's achievements were no doubt great but it should not be forgotten that the Empire he secured was no bigger in size than the Persian Empire under Darius. Whereas the Persian Empire endured for over a century, the Macedonian Empire disintegrated into three separate kingdoms soon after Alexander's death at the early age of 32. The victory at Jhelum was no more symptomatic of East-West military relations than the earlier Persian victories over the Greeks or the later victory of Chandragupta or for that matter the much later Mongol victories in Europe. As regards the "White Man's burden" and "civilizing influence," one has only to recall the massacres of Massaga, Sangala and the Mallian campaign, to conclude that Alexander was as much a scourge as later conquerors like Chengiz Khan and Nadir Shah. However, after all this has been said, it must be accepted that Alexander was an outstanding leader of great genius, whose military and political achievements in such a short span of life have never been equalled in human history.

It may be argued that undue credit is being given to Porus for his fight against Alexander and for this being a contributory factor for

⁺ The Early History of India by Vincent A Smith (Page 112).

the mutiny of the Greek soldiers. No attempt is being made to rebut this because facts as quoted amply support the analysis attempted. That Porus was a remarkable man cannot be doubted. Let it also be said to the credit of Greek historians that they were not in any way inhibited in their praise for him. Polyainos wrote, "The courage and skill with which the Indian King contended against the greatest soldier of antiquity, if not of all times, are worthy of the highest admiration and present a striking contrast to the incompetent generalship and pusillanimity of Darius"*.

The purpose behind attempting an analysis of the causes of the mutiny on the Beas has been to ascertain the truth. Let us not labour under the myth of the theory of tiredness, homesickness or oppressive heat. The fact is that the mutiny occurred due to the demoralization of the Greek army. Present and future generation of military leaders should draw an appropriate lesson from this incident. Maintenance of morale is an all-important principle of war. No military commander, not even Alexander, can afford to ignore this principle.

*Stratagems of War by Polyainos, quoted in McCrindle's India and its invasion by Alexander.

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INTEGRATED LOGISTICS SYSTEM FOR THE DEFENCE SERVICES

COLONEL PRABHAKAR MIIIE,

INTRODUCTION

Logistics is the function of providing all the material and services that a military force need in peace or war. Logistics in its simplest sense, is the science of planning and executing the supply, movement, and maintenance of forces.

Logistics like strategy and tactics, are basic to military doctrine. However, with the manpower ceiling of the armed forces, the cut is invariably made on the administrative services to find required manpower for the desired modernisation of arms. That being so, to provide support to the arms, there is a vital need for the efficient management of the logistics functions. Perhaps an Integrated Logistics System for the Armed Forces may make the vital contribution for the efficient management of the administrative functions.

Presently, the logistics planning and provision of support in the three services is done independently. This results in sub-optimisation of resources and duplication of work. In order to utilise the logistic resources in a more rational and optimum way it is desirable that all the logistic elements of the three Services are integrated on a functional basis.

The purpose of this article is to propose a phased integrated logistic set up for the three Services.

CONCEPT OF INTEGRATION

After the Second World War, it was realised in USA that there was a vast commonality in administrative requirements of the three Services. But each Service was carrying out its own provision, procurement, storing and issuing. Various Committees were appointed to study the problem and suggest better ways. When McNamara took over as Defence Secretary he initiated positive action in this direction. He had the problem studied in detail and started integration of common requirements of the three Services. This made the beginning of the integration concept and gave food for thought to other countries.

Until recent years, the logistics support of the US Army was provided by seven technical Services of the Army. In due course, what appeared to be needed was a single coordinated logistics structure. Material functions (less medical) were consolidated under a single operational command—the Army Materials Command. At its inception in 1962, it became the single agency responsible for developing, procuring, supplying and maintaining material. The AMC directs the activities of depots, arsenals, test ranges, laboratories, procurement activities, and inventory control and maintenance points located throughout the United States.

NEED FOR INTEGRATION

All future wars are likely to follow the pattern of intense lightning campaigns where all the resources of the war machinery will be put to test for a comparative short but sustained periods. In such a situation, the logistics plan has to be flexible, effective and economical keeping in view the maximum utilisation of resources. An integrated logistic set-up is essential due to factors stated below:—

- (a) *Reduction of costs.* By unification, there is an obvious saving of overheads at all levels. The saving made in the reorganisation could be better utilised on more modern equipment.
- (b) *Common doctrine and Procedures.* Despite all efforts to inculcate common doctrines at Joint Staff Colleges and other Inter Services Institutions, the Soldiers, Sailors and Airmen do not always talk the same language. For example the commonality of the nomenclatures of the inventory rationalised demand and issue procedure can best be established with an integrated approach. Likewise commonality achieved in training will lead to common concepts.
- (c) *Unity of Command and Control of logistics machinery:* In future wars, complete coordination can be best achieved if all the logistic resources of the three Services are vested under a unified control. The unification would permit a quicker and more responsive decision making, and it would eliminate multiple channels and inter-Services Committee.
- (d) *Non-Standardisation of Equipment:* There are number of equipments which are more or less common in its usage held by the three Services, but due to non-standardisation they are not interchangeable. This results in large inventories with consequent extra expenditure and low flexibility.
- (e) *Unconnected Planning:* All the three Services stock the inventory of munitions, equipments and their spares depending upon their own concept of war. This results in imbalance of equipment and spares and result in major upheaval during large scale war.

Defence budget constitutes nearly one-fifth of the annual national

budget and nearly 45% of it is spent on materials and their distribution. A developing economy like ours cannot afford to spend such a large proportion of its gross National product towards Defence. The accent must rest on reduction in Defence expenditure through better management and application of effective management techniques in selected areas.

PRESENT SET-UP AND STATE OF INTEGRATION

In the Army, the responsibility of logistics at Army HQ level is managed by the branches of AG, QMG, MGO and E-in-C. The respective Services are responsible for detailed functioning of Units at various levels.

In the Navy, though the logistics set up is quite small, the set up is more or less similar to the Army set-up, having branches like Naval Armament and Supply, but there is no duplication at Unit levels.

In the Air Force, at Air HQ the logistics are under the Air Officer Maintenance, who controls the various branches through Joint Directorates. The Maintenance Command looks after with all the aspects of clothing and equipment at various levels.

State of Integration. At present, some of the functions in various services have already been integrated on inter-Services basis such as the following:-

- (a) The medical services in the Army, the Navy and the Air Force have been integrated under the Director General of the Armed Forces Medical Services.
- (b) The works Services for the three Services have been integrated under the Director General of Works. The Military Engineering Service is also the common operating agency to the three Services.
- (c) Postal Services.
- (d) Military Rail and embarkation HQ of the Army plans transportation cover for the three Services.
- (e) For common user items of armament, ammunition, vehicles, general stores and clothing, the Navy and the Air Force depend on the Army. On materialisation, the stores are obtained by the depots of the Navy and Air Force in bulk.
- (f) Supplies and certain types of fuel are also centrally procured by the Army and issued in bulk to the Navy and the Air Force.
- (g) Apart from the above centralised functions, following common organisations exist:-
 - (i) Research and Development organisation
 - (ii) Directorate General of Inspection
 - (iii) Military Regulations and Forms organisation
 - (iv) Military Lands and Cantonment organisation
 - (v) Canteen Services.

AREA FOR LOGISTICS INTEGRATION

The other spheres where unification could effect considerable economy without interfering with the degree of control which would seem to be desirable for each individual Service to exercise are as follows:-

- (a) *Standardisation*: Standardisation of items of common use in three Services will ensure reduction of inventory. An integrated inventory control for all the three Services, will offer considerable economy in stocks.
- (b) *Integrated Procurement Agency*:- The Director General of Supplies and Disposal Organisation being too unwieldy tends to be ineffective. An integrated procurement agency for all the three Services, exclusively for Defence requirements, staffed by Defence personnel will be more effective.
- (c) *Military Depots*: Common user items could be stocked in Military Depots in peace areas to stock requirements of the three Services. These could supply stores to forward installations manned by the respective Services.
- (d) *Maintenance and Repair*: Parallel organisation like EME for carrying out light repair, field repair and base overhaul of MT, engines, armament and equipment exists in three Services. With integrated system, a single organisation can provide repair and maintenance cover. Considerable saving in manpower, inventory, sophisticated machinery and transportation can be ensured.
- (e) *POL and Supplies*: There is large scope for integration of supplies and POL, and therefore in the interest of economy and efficiency, there is a need to have one integrating agency for procurement.

SUGGESTED APPROACH

Integration of the logistics elements of the three Services will have to be taken up in a phased manner. A detailed study will have to be carried out keeping in view the requirements of the three Services. Such plans may have to be implemented with minimum disruption to the normal functioning of each Service. It may be necessary for a high powered study team to examine the common logistics fields of the three Services. The team may have to be asked to prepare catalogues of all common items and equipments and suggest standardisation or rationalisation of items keeping in view their end use.

ORGANISATIONAL CHANGES

All the activities of logistics of the three Services in a unified control will necessarily fall directly under the Ministry of Defence. It will also ensure better coordination and control. However, the Services cannot be made to divorce their legitimate control over logistics support completely.

Each Service will have to exercise control on logistics to the extent it affects its operational responsibility. The rear organisation dealing with planning, procurement, provisioning liaison with design, development agencies and production agencies will be integrated and function under the Ministry of Defence. Whereas, the forward organisation dealing with forward storage and so on will continue to be with the respective Services.

As a first step, under the control of Ministry of Defence, a new department known as 'Department of Logistics Support' having the following divisions may be created:-

- (a) R & D Division
- (b) Procurement Policy and Supply Division
- (c) Transport and Distribution Division
- (d) Maintenance, Manufacturing and Technical Division
- (e) Quality Control, Inspection and AHSP Services Division.
- (f) Disposal Division.
- (g) Logistics personnel planning, utilisation and Training Division.
- (h) Coordination and Control Division.

The next step could be to set up a high powered Committee for logistics planning and review who will study the various aspects connected with integration of logistics Services.

At various levels like the Services HQ, Field Army HQ, Corps HQ, Div HQ and so on to coordinate the functions of the logistics in his geographical area there should be a Chief Logistics Officer (Colonel) who will have cells representing each Service who are responsible for the specific requirement for each individual Service.

CONCLUSION

Logistics plays a vital role in all operations of war. The military potential of a nation is directly proportional to the logistics potential. If logistics elements are integrated, a substantial saving in Defence expenditure can be effected. More than this, such integration would ensure adequate and effective support to all arms than ever before at the most economic cost.

QUO VADIS, INDEPENDENT ARMoured BRIGADE ?

LIEUT COLONEL J K DUTT CENTRAL INDIA HORSE

INTRODUCTION

We have had three major wars with Pakistan so far. The 1947 operations saw very little use of armour as such by either. However, armour was extensively used by both sides in 1965 and again in 1971. In the 1965 war we had only one independent armoured brigade which gave a good account of itself in a defensive action against superior enemy armour. By the time the operations broke out in 1971, we had a number of independent armoured brigades on our order of battle. At the end of the operations it was found that in spite of having so many formations of this type, we had not been able to achieve anything decisive. We could have won far greater laurels had our independent armoured brigades been used correctly in offensive operations. There is something radically wrong with the method by which we employed our armour and if this is not rectified, then in all future operations we shall never be able to achieve any decisive results—at best it will be a half-baked affair as it was during the last conflict. What then, is wrong with our method of employing the independent armoured brigade? The aim of this article is to examine the drawbacks in our present method of employment of the independent armoured brigade in war and to suggest ways and means of eradicating them. It is also proposed to suggest the correct method of employing this type of formation so that in future operations we can achieve clear-cut, decisive results.

ORGANISATION AND CAPABILITIES

Let us recapitulate the outline organisation of the independent armoured brigade and what it is capable of achieving in war. Broadly speaking, the brigade consists of a reconnaissance squadron, three armoured regiments, a field (SP) artillery regiment, a mechanised infantry battalion and a company each of engineers and signals. On the administrative side, the brigade has a battalion each of ASC and EME and other services units of company size. Coming down to brass tacks, the formation possesses 18 reconnaissance tanks, 138 battle tanks, 18 SP guns and adequate APCs, tracked or wheeled, to make the integral infantry battalion fully mobile. A proportion of medium artillery and air effort are invariably allocated to the formation during war. The administrative echelons of the formation are so organised and equipped that they are capable of maintaining the formation over prolonged periods of mobile offensive operations. It is obvious that the inde-

pendent armoured brigade is truly an extremely powerful formation possessing tremendous fire-power and excellent manoeuvrability on the battlefield.

When launched at the appropriate time, the independent armoured brigade is capable of bashing its way through in a deep thrust operation covering anything between 15 to 20 kms over a night and a day. The formation is capable of independent operations for a period of 72 hours at a stretch. A number of such formations are capable of delivering such a crippling blow to the enemy that the latter would find it virtually impossible to recover in the context of the short-time operations that normally take place in our wars. The independent armoured brigade is an ideal formation to carry out quick snatch of enemy territory which can be subsequently deliberately held by the infantry divisions.

PRESENT METHOD OF EMPLOYMENT

Let us now examine the method of employment of the independent armoured brigade in war that is currently prevalent. Under normal peace time conditions, the independent armoured brigade forms part of a corps. The brigade is a self-contained, separate formation by itself and deals directly with corps HQ on all matters pertaining to training and administration as does any other infantry division of the corps. Command and control is exercised by corps HQ.

As soon as operations break out, the independent armoured brigade is promptly placed under command of an infantry division. This is the first item in the chain of bloomers that takes place. The feeling at corps HQ appears to be—"we don't want to get involved in the operational command and control of the independent armoured brigade, so the best thing would be to give it to an infantry division. If things work out well, that's fine and dandy; if they don't we can always take the armoured brigade commander to task!" Of course, sometimes the only contribution that corps HQ makes is to nominate one of the armoured regiments of the brigade corps reserve!

We now come to the second bloomer. The infantry division commander who has received the independent armoured brigade under his command is in an absolute dilemma! What is he to do with this rather unwieldy formation. It's all very well to quote the GS publication on Armour that states how this versatile arm should be used and all that, but surely that is meant for training purposes, certainly not for war! One would much rather play safe in battle. So he in turn dishes out an armoured regiment each to his three infantry brigades. At a pinch, he might keep the reconnaissance squadron as his divisional counter attack force and probably commandeer the three tanks of the armoured brigade HQ for the protection of his divisional HQ!

And so on to item number three on our bloomer list. The infantry brigade commander who receives an armoured regiment under his command

is thrilled to no end. What better method of using the armoured regiment could there be other than distributing an armoured squadron to each of his three infantry battalions? And why not keep the three tanks of the regimental HQ for the protection of the infantry brigade HQ?

Finally we reach the last bloomer along the line. The infantry battalion commander who receives an armoured squadron very happily gives out a tank troop to each of his four rifle companies. I think one should rather not mention what the rifle company commander does!

What of the artillery, infantry and engineer units of the independent armoured brigade? The obvious answer is to use them to augment the resources of the infantry division concerned!

Thus we see that one of the most powerful formations of our army, the independent armoured brigade, has been ruthlessly dissipated on the infantry divisional distribution list. The simple rule of thumb has been used and the teeth of the armoured brigade has been very conveniently distributed all over to bolster the fighting capability of the infantry division. Q.E.D! Do we have any hope in hell of achieving anything decisive if this is the way this hapless formation is employed?

Let us briefly analyse the 1971 operations in as much as the employment of the independent armoured brigades that were used, is concerned. In not a single instance was any one of these formations used as a formation with all its authorised units. In every single case the resources of the formation were invariably split up into penny packets and distributed down the line of command. In one case, the commander of an independent armoured brigade almost decided to put in for leave as he had nothing left to command! In a second case, the resources of an independent armoured brigade were split between two infantry divisions. For the entire duration of the operations, the armoured brigade commander and his deputy commander had the good fortune(!) to "command" one armoured regiment group, although on paper this was being shown as an independent armoured brigade!! At one stage of the operations this unfortunate armoured brigade commander lost the three tanks of his brigade HQ which were taken away to protect the gun area of an artillery unit! In a third case, an armoured regiment of an independent armoured brigade clocked almost 400 kms of track mileage without finally being committed into battle. It was moved helter-skelter from one sector to another wherever there was a flap! As far as command and control goes, the less said the better. There was no end to indecisive and contradictory orders to these armoured brigades that emanated from all types of higher Headquarters!

In fact, our methods of employing armour would be an excellent subject for Ripley's "Believe It Or Not" series!

ANALYSIS OF PRESENT DRAWBACKS

Why is it that this is the state of affairs when the independent armoured

brigade goes to war? Surely nothing could be more deplorable or pathetic. Let us try and analyse the factors that contribute to this condition.

The first factor is command and control. If during peace command and control on the independent armoured brigade is exercised by corps HQ, the latter has no business to palm off this vital aspect to an infantry division during war. If a corps HQ is reluctant to handle the armoured brigade in operations, how on earth can it expect an infantry division HQ to do the needful? This just does not seem to make sense. An infantry division is not meant to go into operations with an independent armoured brigade under its command. The corps HQ is in the picture of the entire corps sector and should launch the armoured brigade in any part of that sector for a decisive action. I wish to lay stress on the word "decisive"—I do not mean minor skirmishes but major armoured battles, the favourable outcome of which on our part will seriously jeopardise further large scale manoeuvres by the enemy. This decisive action can not be achieved if corps HQ gives away the independent armoured brigade to an infantry division and then hopes for the best!

The second factor is the actual requirement of armour by the infantry divisions. There is no denying the fact that every infantry division in the plains must have its own integral armoured regiment, as authorised on the establishment. This armoured regiment is primarily meant to support the infantry division in its operations and not for anything else. This task the regiment will carry out in conformity with infantry speed. The regiment is not meant for getting involved in major armoured battles as the latter is the task of armoured formations. At present, very few infantry divisions have their own armoured regiments. But I would like to ask one question to the infantrymen—given its integral anti-tank resources less armour, is not an infantry division capable of holding its ground against enemy armour? Must the infantry division always be dependent on armour backing for defensive operations? A case in point is that throughout the last conflict, a particular independent armoured brigade had to shed one of its armoured regiments which was placed under command of an infantry brigade for the defence of a particular sector. Needless to say, no enemy threat materialised in this sector and it was a total waste of an armoured regiment. Perhaps we could have some infantry views on this aspect.

The third factor is the age-old principle of employment of armour. There is one and only one principle that is required to be religiously followed when using armour and that is the principle of concentration. Surprisingly enough, every one confidently talks about this, strongly advocates this and firmly vindicates the soundness of this principle yet no body follows this in war! The minute this principle is violated, decisive results become unattainable. It is as simple as that! This factor does not require elaboration when one sees that instead of using the 150 odd tanks of the independent armoured brigade as one concentrated mailed fist, the tanks are distributed

in bits and pieces and become no more than mere pin pricks.

The fourth factor is our inability to take risks. It is an accepted fact that in order to achieve worthwhile results armour must be used boldly. But the underlying corollary to this is the fact that bold use of armour is synonymous with taking risk. No body is prepared to take this risk! Every one becomes unduly cautious in battle and never permits bold use of armour because this will entail taking risks in one form or another. Hence our grand advance of 14 kms in as many number of days is presumably justifiable!

The fifth and last factor is that famous and permanent disease, namely 'flap.' To cite an example, a large scale exercise with troops was held sometime during the middle of 1971, involving the participation of two of our major armoured formations as opposing forces. These two formations were of course suitably grouped with a number of infantry formations. It was an amazing thing to see that almost all the subordinate commanders of the formation that was fighting the defensive battle came out with this continuous bleat once the exercise started—"For God's sake send me more tanks! The enemy armoured division is breaking through my sector!" If a troop of tanks was seen in front, the report that travelled up the chain of command got magnified at each level and probably culminated as an armoured regiment! And this was only an exercise—what would happen in war? Unfortunately there seems to be no answer to flap—the inherent characteristic of jittery commanders.

Finally, a point worth bearing in mind is our standard of operational experience. It would be grossly unfair to blame infantry commanders for their inability to use armour correctly. Let alone the infantry, before the onset of the last conflict there were no more than a couple of armoured corps officers who had some experience of operational handling of an armoured formation! It is our system that is at fault and not individual commanders.

SUGGESTIONS FOR FUTURE EMPLOYMENT

If it is envisaged that the independent armoured brigade would be continued to be used as during the last war, it is suggested that this type of formation be disbanded. Armoured formations are very expensive affairs and their misuse in war is nothing but criminal abuse of the taxpayer's money. It would be far more profitable to raise armoured regiments and give them to infantry divisions as their integral armour components.

If however, saner gumption prevails and a genuine attempt is made to employ the independent armoured brigade correctly then it is imperative that command and control of the formation in war be exercised by corps HQ, as is done during peacetime. There must be no question of giving the formation away to an infantry division. Corps HQ must never absolve itself of the responsibility of operational command and control and must exercise this responsibility throughout. Corps HQ can not delegate this responsibility to any body else.

The independent armoured brigade must be used concentrated as a formation. The futility of using it in bits and pieces can not be over emphasised. It is axiomatic that all other principles of employment of armour are derivative from this one principle of strength in force".

There is a definite requirement of an armoured corps officer of minimum rank of Brigadier, as armour adviser in every corps HQ that has an independent armoured brigade. This officer's job is to advise the corps HQ staff on the employment of armour in the corps sector. He should have the power to veto any suggestion pertaining to unsound use of armour.

If the infantry division is uncertain of its ability to hold its own without the support of armour, it might be worthwhile increasing the authorisation of 106 mm RCLs in the infantry battalion. Alternatively, a divisional anti-tank battalion could be raised equipped with this weapon, from which anti-tank companies can be given out to infantry brigades. This would go a long way in curbing the temptation of dishing out armoured regiments to infantry brigades.

Every corps that has an independent armoured brigade should possess tracked troop carrying vehicles in the corps ASC unit; capable of lifting at least one infantry brigade group at a time. Obsolete tanks like Sherman, Churchill and Stuart with their turrets removed and SP gun carriages like Sexton and Archer can be very usefully employed for this. These vehicles are available in plenty in our ordnance depots. In order to maintain the momentum of offensive operations by the independent armoured brigade, infantry must follow up in the shortest possible time. This can not be done on foot. These vehicles can move infantry in the wake of armour across country and thus further the progress of operations.

CONCLUSION

The independent armoured brigade is one of the most powerful formations of our army. It is capable of producing decisive victories if used correctly. In the past, the formation has not been handled well, resulting in inconclusive decisions on the battlefield. This poor handling is due to faulty command and control, employment of armour in penny packets and using armour with extreme caution. We can not let this state of affairs remain for the next war. Therefore, we must ensure that the drawbacks are removed as early as possible. Corps HQ must exercise command and control of the independent armoured brigade in war and must not delegate this responsibility to an infantry division. The brigade must be used concentrated, as a formation. Armour must be used boldly and risks accepted in the process. If a serious thought is given now to the correct employment of this formation, there is no doubt that in the next war we shall be able to achieve far more decisive results than what we obtained in the last one.

BATTLEFIELD SURVEILLANCE

MAJOR S. D. SOOD

INTRODUCTION

IN the present era, no wars between countries of the third world will be permitted to be waged by Super Powers for more than fifteen to twenty days. Finally, when cease fire is declared the area of territory captured will become a bargaining factor. This consideration has brought about a change in the military thinking and the Army is now considering fighting from permanently linear defences. To ensure security of defences and maximum casualties to the enemy, all available fire power will have to be co-ordinated, to bring maximum fire to bear upon the enemy while he is attacking. In addition, to ensure minimum loss of own territory early warning of enemy intentions will become necessary. This has brought into perspective the employment of equipment to maintain surveillance over the battlefield. With rapid advancement in technology of night visibility many passive devices are being included in the inventories of various armies. It has therefore become necessary to think on employment of such equipment.

The aim of this paper is to determine the use of battlefield surveillance equipment in the present context with particular reference to co-ordination of Night Visibility Plan.

LINEAR DEFENCES

The concept envisages occupation of lines of strong defences based upon an obstacle and concrete pill boxes. The force occupying such a line will be a composite group with necessary Armour, Artillery, Engineer and extra Anti-Tank effort. Troops fighting from such a line will only be in a 'holding role'; holding off an enemy attack: at the same time, this line can be used as a firm base to launch an offensive into the enemy territory. This paper is primarily concerned with the holding role of such force.

HOLDING ROLE

In this role the force will be supported by a strong reserve whose tasks and composition are not being discussed in this paper. Force occupying linear defences will be tasked to ensure no enemy incursion into own territory. Such a task would entail security of line of defences at any cost. The enemy would employ innumerable means to acquire information about the defensive layout : especially by night, by stealth. Effective surveillance of the areas of operations will assist in fulfilment of the given task.

SURVEILLANCE

GENERAL

For purposes of this paper the following assumptions have been made:

- (a) Illumination forms a part of battlefield surveillance.
- (b) Characteristics of the illuminants in service are known.

ILLUMINATION

Need. Night operations have assumed great importance. If a force occupying linear defence, as envisaged, is tasked to hold off the enemy, it is imperative that it should be able to inflict unacceptable casualties to the enemy. This is possible by night if sufficient light is available for the defender to be able to bring down aimed fire over the enemy. With the types of illumination available with the Army, illuminating the battlefield by defender is equally helpful to the attacker. It is, therefore, essential to have a system of exercising command and control over the battlefield illumination.

Agents Available. The agents of illumination available in the Army are as follows:-

- (a) Star Shell.
- (b) 2 inch mortar paraflare bombs.
- (c) Verey light cartridges.
- (d) Searchlights.
- (e) Vehicle lights.

(The characteristics of these, it is assumed, are known).

SUGGESTED MEANS

- (a) *Searchlight Reflected.* A meteorological balloon with a thin aluminium foil attached at the bottom can be put up at a predetermined height. Optimum distances can be worked out by mathematicians. Then, one or more searchlight beams are focussed and the light reflected on the battlefield. This is a cheap method but has the disadvantage of detection. A diagram to illustrate this is at figure 1 in Appendix A. It may be argued that the balloon may be shot up. To protect against this, the balloon may have a number of compartments of gas so that blowing of one does not deflate the balloon thereby causing it to descend. The balloon will only be put up at night therefore, it may be in black colour. It must be anchored to the ground with the help of a steel cable.
- (b) *Manganese Flares.* Manganese is filled into a hosepipe and is buried into the ground in front of the defences. This hosepipe is connected to an electrically detonating mechanism. When required

this can be detonated and a light flare generated on ignition to last for a given period. Details can be worked out by R & D. The method illustrated in Figure 2 at Appendix A is cheap but can be disrupted by an odd shell landing on the crust of the circuit.

- (c) *Hay Stacks.* Hay is stacked in piles at predetermined places with petroleum jelly sprinkled. When required these can be ignited. The method is practical but these stacks could ignite prematurely by accident: thus compromising the defensive layout to a degree.
- (d) *Flare from Aircrafts.* Flares can be dropped from aircrafts over the required area.
- (e) *Night Sun.* This is a searchlight mounted under a helicopter. The helicopter is asked to hover over an area and the searchlight switched on. The height at which it will hover is dependent on the power generated. It will be argued that the helicopter will become a sure target. This can be overcome by putting up helicopters in pairs and they follow the technique of 'switch and move' switch on the searchlight for a few seconds, switch off and change position while the other helicopter takes over the same role. To provide greater protection to the helicopters these searchlights could be mounted to reflect light at an angle so that these helicopters can hover in own territory *i.e.* behind our FDLs. This technique has been successfully tried out by the British Army in Belfast.

BATTLEFIELD SURVEILLANCE

General. Surveillance has been necessitated by the complex conditions of modern warfare. It assists commanders in formulating their plans and retaining flexibility by gaining early warning of enemy intentions. This is more applicable to the Army since warning will be of paramount importance; especially, when we are separated from the enemy by a few thousand yards only. Surveillance forms a part of Night Visibility Plan (NVP) and will be more effective when integrated with battlefield illumination. There are two types of surveillance: active and passive.

Necessity. In the sectors where construction of permanently linear defences is envisaged, two Armies are hardly separated by a few thousand yards. In any future war, time for reaction will be limited. It is therefore necessary for commanders to employ all means for acquisition of information to update own plans and retain flexibility. The correct use of these devices will ensure swift action and rapid re-deployment where necessary.

Active Devices. These are devices which can be detected by the enemy if he employs detectors. These include the following:-

- (a) *Infra Red (IR).* In a composite force this equipment is available with tanks which can be integrated into the NVP of a formation.
- (b) *Electronic Devices.*

- (i) A radar for infantry companies is under trial. When introduced, this will have to be co-ordinated since indiscriminate use of this equipment is liable to give away location of own troops.
- (ii) *Seismic Intrusion Alarms*. These are also under development and are primarily used to give warning of intrusion into a piece of ground. These are used to supplement Listening Posts by night and help in conserving manpower. The range however is limited and other than alerting own troops of an intrusion has very restricted use. It also cannot distinguish between men and animals.

Passive Devices. The performance of these devices is dependent on the ambient light level. These are broadly grouped as Image Intensifiers (II). These are less heavy than IR, have a better performance in almost all conditions, consume much less power and being passive are secure from detection. Range performance improves considerably as ambient light level increases hence, close co-ordination and integration with the use of illuminants will yield better results. The use of these devices provides for greater security. When used in conjunction with other means of surveillance these provide an effective method of acquiring intelligence. The performance of all these devices including active IR is degraded by smoke, mist or heavy rain. The recommended scales of allotment are listed at Appendix B along with their characteristics.

PLANNING, COMMAND AND CONTROL

NVP planning will have to be undertaken at the highest HQ controlling the defence of the sector. This is necessary because of the requirement of co-ordination, integration and availability of an overall picture of operations in that sector at that HQ. The planners will have to consider the timings: when this plan would be operative and at what stage would authority for implementation be delegated. This aspect would bring into perspective the requirements of concentration and dispersion of battlefield illumination and surveillance resources.

There is a case here for the setting up of an NVP planning cell at a Division HQ under the GS Branch with its co-ordination being delegated to the GSO-2 (Int)/GSO-2 (Ops) assisted by the Artillery Brigade Intelligence Staff.

Command will be exercised through Operational Orders and Instructions which will include control by stages. It is suggested that NVP control be implemented in four stages as follows:-

- (a) *Stage I*. When enemy build up commences in his own territory, movement will increase. At this stage, passive devices will be authorised for patrols and early warning elements established ahead of the defensive line.

- (b) *Stage II.* Electronic silence to be lifted at this stage : when enemy intentions have to be judged (only includes Radars).
- (c) *Stage III.* Active sources to be authorised for use: when enemy has established contact.
- (d) *Stage IV.* White light including battlefield illumination at this stage : when enemy is attacking and is trying to cross the obstacle.

The above mentioned stages will be controlled by the Division HQ who will appoint Commander Division Artillery Brigade to co-ordinate the siting of these resources on ground, dependent on the Division Commander's plans and appreciation. A separate paragraph be incorporated in the Command and Electronics part of the Operational Orders which should mention the following:-

(a) *NVP.*

- (i) *Stage I.* Whose authority—can be delegated to whom and code-words?
- (ii) *Stages 2, 3 and 4.* As above.

The ammunition for battlefield illumination will be limited. This must therefore be also controlled by the controlling HQ. This brings out the question whether weapons with the infantry battalions, which are being used for firing this ammunition should be centralized or not? It is recommended that the weapons be kept with the battalions but detachments can be sent to perform specific tasks when required. This would mean that para illuminating bombs issued to battalions will be controlled by the Division HQ and allocated on an as required basis.

At stage IV there will be a requirement of a fire plan. It is suggested that this fire plan be integrated with the NVP.

When the use of aircrafts and helicopters is envisaged, the planning cell must be given a representative of the IAF. This officer can be Division FAC.

(b) *Alternative System.* A system of stages may be difficult to operate at lower levels and may result in slow response times in a fast moving battle. There may be little pause between the enemy reconnaissance and attack phases and it may be difficult to identify the phases at night. An alternative system—let us call it 'visible line system'—which is especially suitable when units/sub-units are responsible for their own surveillance, are to control the use of devices and engagement means by definite orders before contact is made. The plan must nevertheless be co-ordinated at the highest practicable level. Under this system control lines following well defined features will be laid down which will, like the fire plan, take into consideration the capabilities of various equipment. These control lines could be merged with the Operational Orders to be effective on laid down code-words as already discussed.

An example of Battalion NVP under this system is given below:-

- (a) All targets identified beyond line ALFA, a recognisable feature, are to be engaged by Artillery.
- (b) All targets identified as enemy reconnaissance are to be engaged by indirect fire until as late as possible.
- (c) *White Light*.
 - (i) No artillery or mortar fires until the enemy has crossed line ALFA.
 - (ii) No tank white light until the enemy has crossed line BRAVO.
- (d) All LPs and other elements ahead to withdraw when Line ALFA becomes operative.

RECOMMENDATIONS

In view of what has been discussed the following are recommended:-

- (a) NVP must be given greater emphasis than at present.
- (b) Illumination means as outlined under 'Suggested Means' on pages 289 & 290., be examined.
- (c) NVP should integrate battlefield illumination and surveillance.
- (d) Existing resources be put to best use.
- (e) Feasibility of acquiring passive devices at the recommended scales be examined.
- (f) NVP cell be set up at Division HQ to co-ordinate all available means and if required should include an IAF representative.
- (g) Strict control be exercised in the use of NVP aids.
- (h) Allocation of illuminating ammunition with the battalions be controlled by the Division HQ.
- (i) A separate paragraph for NVP be incorporated into Division Operational Orders and this plan be implemented through the four stages recommended.
- (j) For the system to be operative at lower levels the 'visible line system' be considered.

CONCLUSION

In any future war the area of territory captured will be a consideration for bargaining when cease fire is declared. It will therefore be paramount to foil any attempt of the enemy across international boundary.

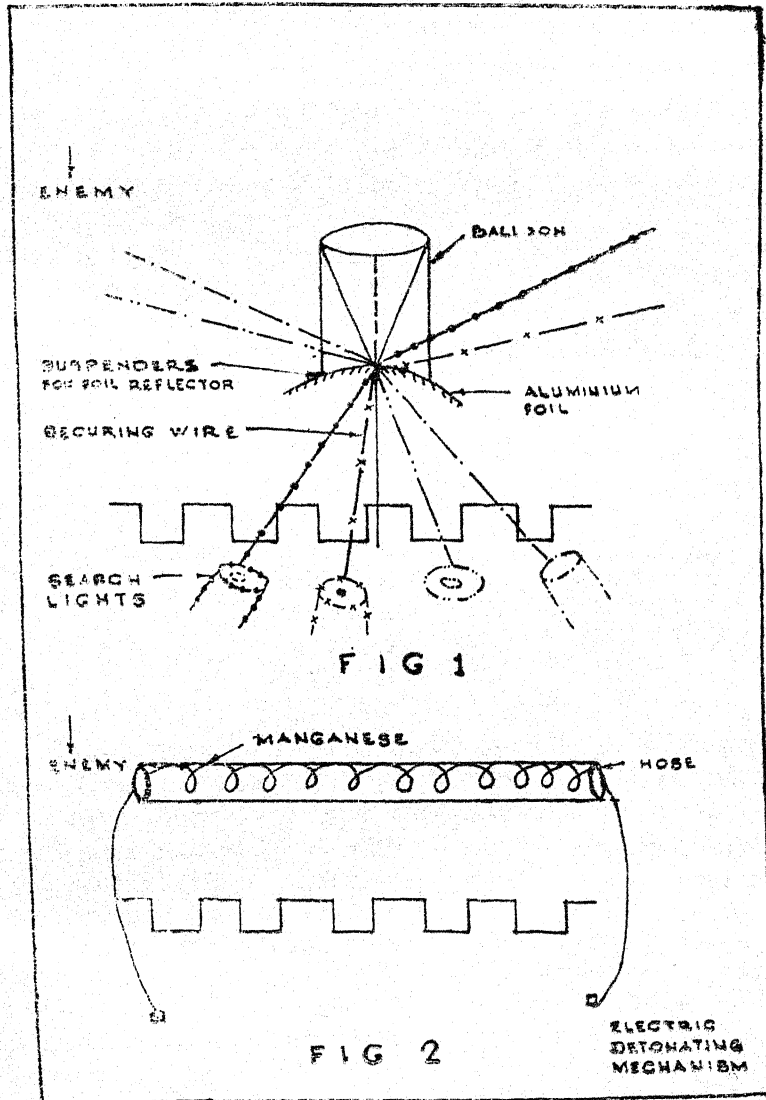
At present the two Armies are separated by only a few thousand yards with innumerable obstacles between them. Under these circumstances it is essential to have an early warning of enemy's intentions without jeopardising your own security.

Whenever the enemy makes an incursion into own territory, our troops holding permanently linear defences will have to ensure that the

enemy's attempt is foiled. They may also have to secure a firm base for furthering own offensive into enemy territory. In order to ensure success in either role there is a requirement of co-ordinated NVP integrating both—battlefield illumination and surveillance devices. To ensure greater interaction, illuminating ammunition to be retained under Division control, to be allocated on an as required basis.

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APPENDIX "A"



PASSIVE DEVICES

General

1. Passive devices II are better than active devices for the following reasons:-

- (a) These are less heavy.
- (b) Have a better range performance.
- (c) Consume much less power.
- (d) Being passive are secure from detection.

<i>Sr</i>	<i>Equipment</i>	<i>Range</i>	<i>Purpose</i>	<i>Proposed Scale</i>	<i>Weight</i>
1.	Individual weapon sights (IWS)	300 m	MMG, LMG SLR, Patrols and LPs.	Infantry Battalions at one per MMG and LMG, and nine per company.	6 lbs
2.	Crew served weapon sights (CSS)	Recognize tanks at 800 m	106 mm rcl	One per rcl	20 lbs
3.	Night observation Device (NOD)	Recognize tanks at 1500 m	Night viewing device with target acquisition and observation of fall of shot capability.	Two per battery for FOOs and three for per battalion for MFCs.	34 lbs
4.	Weapon Sight for Tanks	Recognise tanks at 1000 m		One per troop of tanks	
5.	Night driving periscope	Upto 200m	Enables tanks and APCs to drive closed down at 20 mph on rough tracks.	One per troop of tanks and one for every company lift of APCs.	

Distribution

The above is proposed scale for units in these sectors only. If the costs are high, these scales can be reduced to suit specific sectors and be referred to as sector stores authorised for issue to units as determined by operational plans.

MILITARY CAREER AS PERCEIVED BY HIGHER SECONDARY PUPILS

R. P. GAUTAM*

A number of studies have been reported on various aspects of vocational choice. Some of them deal with the social prestige of vocations (Cook, 62, Grewal, 73) while others pertain to personality traits of their choosers (Mohsin, 50, Gray, 63, Thumin 65). However, military career has not been studied in depth in any one of these studies despite its great importance for every nation specially ours in prevailing circumstances. Sinha (72) rightly states, "Work on the cognitive bases of the choice of military career is very much needed." Emphasizing the necessity of such a work, he points out that "quite a number of officers and other ranks, after having received training for some time, realize that the picture of military career which they had prior to their selection, was different from the one experienced in the course of training". In view of this, the present study was undertaken to investigate the image of military career in the occupational spectrum of higher secondary pupils of Roorkee. Precisely, the study was designed to investigate the following two problems:-

- (i) What is the relative status of military as a career for higher secondary pupils?
- (ii) What reasons do they offer for their preference of Military career?

Besides these, it was also decided to find out the relationship, if any, between their preference for military career and their social variables like educational institutions, parental occupation and economic status. The present paper, however, deals with first problem only.

SAMPLE

There are only two higher secondary schools in Roorkee, namely, St. Gabriel Academy and the Central School. The former is purely male school, runs only science classes and has only 27 pupils in XI standard. The latter is co-educational, runs both science and arts classes and has 43 pupils (28 boys and 15 girls) in XI Standard. As the higher secondary examination is minimum academic qualification for getting commission in the Indian Armed Forces and women are not recruited except for medical (AMC) and nursing (MNS) services, it was decided to take all the XI class male students

* Senior Scientific Officer (Psychologist) 17SSB, Selection Centre (North), Roorkee.

of both these schools as sample for the present study. Since the size of this group was only 55 ($27 + 28$), it was decided to increase the same by including XI class students of local intermediate colleges also so that adequate number of cases could be available for necessary analysis and drawing reasonable inferences.

There are five intermediate colleges out of which two are girls colleges, two are co-educational and only one runs purely male classes. Out of these last three, only two i.e., B.S.M. Inter College and the Government Inter College, were included in the study. The third one i.e., K.L.D.A.V. Inter College could not be involved due to certain administrative reasons.

The B.S.M. Inter College runs intermediate classes in three groups namely, the Arts, Science and Commerce while the Government Inter College runs only science classes. To make the sample adequately representative of higher secondary pupils' population, it was decided to take only commerce students from the B.S.M. Inter College. Question of such a choice did not arise in case of Government Inter College on account of running only science classes. The total strength of commerce students in BSM College and science students in Government College is 85 and 88 respectively.

However, approximately only half of them were included in the sample. Their selection was made randomly. Since some students were absent on the day of data collection, ultimate sample remained as under:-

TABLE 1

Showing composition of sample as per institution and subject group:

<i>Institution</i>	<i>Subject group</i>	<i>Existing strength</i>	<i>Size of sample</i>
Central School	Arts	10	10
	Science	20	11
St. Gabril Academy	Science	27	24
B.S.M. Inter College	Commerce	85	42
Govt. Inter College	Science	88	43
G. Total		230	130

METHOD

A proforma named Career Preference Proforma (CPP) was developed to record necessary information from the members of the sample. It was divided into two parts. The first part dealt with personal particulars and the second contained three questions pertaining to preference for various careers and reasons for such a preference. A copy of this proforma has been shown as Appendix 'A' to this report.

DATA COLLECTION

Group-testing method was followed to administer the above-mentioned proforma on the students of each institution separately. Teacher-in-charge

of the class in every institution was requested to remain present in the class throughout the period of testing so that the students would respond to the questions with adequate understanding and alertness.

In the beginning, the investigator read out the whole proforma and then answered the clarifications sought for by a couple of students. Then the students were asked to fill in the proforma with necessary information. There was no time limit. However, all the proformas duly filled in, could be collected back within one period of 45 minutes. Thus, full data was collected within four days from all the four institutions by approaching each institution on each consecutive day. The classified data is given below:

DATA ANALYSIS

As the students were asked to mention 5 careers in order of their preference, it was decided to give weightage to each preference in the same descending order of 1 to 5 with 1 to the career mentioned as the first preference and 5 to the career mentioned as the fifth preference. Number of candidates as per their preference for military career is shown below:-

TABLE 2

Showing number of candidates as per their preference for military career.

<i>Order of preference for military career</i>	<i>No. of students</i>	<i>Total weightage</i>
First preference	36	36
Second preference	31	62
Third preference	12	36
Fourth preference	2	8
Fifth preference	5	25
Total	86	167

On the basis of above table, a career preference index (CPI) was calculated to ascertain the relative status of military career along a five-point scale by using the following formula:

$$CPI = \frac{WR}{n} \times \frac{N}{n}$$

Where WR=Sum total of the response-weightages for military career which in present study is 167.

N=Size of the sample which in present study is 130.

n=Number of students preferring a particular career. Here it is 86.

Substituting these figures in above formula

$$CPI = \frac{167}{86} \times \frac{130}{86} = 2.93$$

An attempt was also made to compare the two extreme groups of students in the sample, namely those giving first preference for military career and those rejecting it outright. Variables like institution they study in, father's occupation and economic status were selected for comparison. Findings are tabulated in the following tables:

TABLE 3
Showing institution-wise distribution of students giving 1st preference and no preference for military career.

<i>Institution</i>	<i>N</i>	<i>Students giving 1st preference</i>	<i>Students giving no preference</i>
Central School	21	13	2
St. Gabriel Academy	24	5	12
Govt. Inter College	43	12	13
B.S.M. Inter College	42	6	23
TOTAL	130	36	50

N indicates total number of students from the respective schools.

TABLE 4
Showing parental occupation-wise distribution of students giving 1st preference and no preference for military carrier.

<i>Parental occupation</i>	<i>Students giving 1st preference</i>	<i>Students giving no preference</i>
Military	12	2
Business	6	21
Engineering	4	3
Administration	4	4
Teaching	3	6
Scientific Career	2	2
Clerical	2	6
Legal	1	1
Agriculture	1	1
Railway	—	2
Medical	—	1
Labour	1	1
TOTAL	36	50

TABLE 5

Showing parent's income-wise distribution of students giving 1st preference and no preference for Military career..

<i>Parents income</i>	<i>Students giving 1st preference</i>	<i>Students giving no preference</i>
Above Rs. 2000/- PM	4	4
Rs. 1000/- to Rs. 2000/- PM	3	10
Rs. 500/- to Rs. 999/- PM	14	13
Below Rs. 500/- PM	15	23
TOTAL	36	50

DISCUSSION OF RESULTS

Table 2 reveals that 86 students have given their preference (ranging from first to fifth) for military career. However, it can be logically inferred that those who have not given first preference for military career are not likely to join it unless they fail to achieve the career of their first choice. We shall therefore concentrate on those who have given first preference for military career. The number of such students is 36 out of 130. In terms of percentage, it comes to be 27.69%. Though this figure is not low, yet falls below the expected level in view of the following factors.

First, military career is probably without parallel wherein a student becomes eligible to become Commissioned Officer (equivalent to Class I Gazetted Officer in Civil Service) after achieving academic qualification of higher secondary examination only. Besides, bright prospects of going up and other fringe facilities further add to its charm. It can therefore, be logically inferred that such a career would be opted for by a much larger students' population specially in the present circumstances of unemployment and discontent. Thirdly, our victory in '71 War against Pakistan' is also expected to have added much glamour to military career. Lastly, location of a big cantonment and Services Selection Centre at Roorkee are other factors to be reckoned with while evaluating the present figure.

In the interior areas of the country, popularity of military career may be found further low in view of poor communication systems and limited general awareness. Even in a city like Kanpur, Bist (68) found only 18.06% high school students preferring army and air force as careers. Had the Navy also been included in his study, results would have been probably closer to the present findings. Thus, it can be argued that despite expanding education, increasing general awareness and improving image of our armed forces, we don't find expected improvement in the students' preference for military career.

The career preference index (2.93) which is based upon the preferences of the total sample, shows that military career comes close to third place

along a five-point continuum. This further corroborates the view as stated earlier that the military career falls below the expected level among the students' vocational preferences. This is confirmed by Cook (1962) who conducted his study on 'Prestige of Occupations in India, and found military career at third place among 22 selected occupations.

In the tables 3,4,& 5 a comparison has been made between two groups of students giving first preference and no preference for military career. As stated earlier, there are 36 students who have given first preference for military and 50 students who do not make any mention of military career. A glance at table 3 reveals that the highest number of students giving first preference for military career comes from the Central School whose total strength of XI Std. male students is much less than that of other institutions. However, it will be too hasty to conclude at this stage that the Central School is instrumental as institution in moulding the vocational preference of its students in favour of military career since the subsequent tables would provide clear picture.

Table 4, reveals that the largest number (about 33 %) of students opting for military career as their first choice comes from military background. And these are the students who are studying in the Central School. Thus it is not the Central School course but the parental occupation which seems largely responsible for their first preference for military career. It can also be stated at this juncture that all these 12 students of Central School opting for military career are wards of JCOs and/or ORs. The two students who come from military background but do not prefer military career (Table 4) are sons of officers. This leads to a logical inference that it is not the military background alone but also the socio-economic status which may affect the children's preference for military as a career. This seems further confirmed by table 5 which shows that 29 out of 36 students opting for military as their first choice come from families whose income is below Rs. 1000/- per month. With the revision of pay scales almost in every department and reduction in the purchasing power of rupee, this income bracket does not indicate any well-to-do status in the present days.

Besides above discussed factors, subject-groups offered by the two groups of students may be another factor worth exploration. For instance, it is likely that the students of the BSM College who have offered commerce may have already decided tentatively regarding their choice of career. Another important variable which has not been considered in the present study is the educational status of parents. It can be argued that the children of inadequately educated parents may not develop a definite preference for a particular job simply because of ignorance on the part of their parents and/or themselves and not because of any other factor. This could be a contributory factor specially in the BSM and the Govt. Colleges wherein a large number of students come from nearby villages. These two last factors however require further study.

CONCLUSION

About 27% higher secondary students have mentioned their first choice for military career. Though this figure is not low, yet at the same time it may not be said satisfactory too in view of several prevailing factors.

The career on the whole, enjoys third place along a five point continuum. Military background coupled with economic status seems a strong variable associated with the student's preference for military career.

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APPENDIX 'A'

CAREER PREFERENCE PROFORMA (CPP)

1. Please fill in your personal particulars in the following columns.
 Name..... Group : Arts/Science/Commerce
 Class..... Age
 Father's/Guardian's occupation
 Post/Rank held by Father/Guardian.....
 Father's/Guardian's total income.....
2. This is purely a Scientific study. Please give your responses frankly and correctly to the following questions :-
 - (a) Write five occupations in order of preference that you will like to choose as a career for yourself.
 (I) (II)
 (III) (IV)
 (V)
 - (b) Are you aware of the procedure of becoming an officer in the military (Army/Navy/Air Force)?
 Yes/No/Cannot say
 - (c) Are you going to try to become an officer in military?
 Yes/No/Cannot say
 - (d) Write specific reasons of your choosing(not choosing military as a career).
 (I)
 (II)
 (III)
 (IV)
 (V)

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THE SAMURAI OF JAPAN

MAJOR SUBHASH KAPILA

INTRODUCTION

With the growth of feudalism in Japan, a warrior class came into being which was known as the Samurai. The Samurai or the 'Fighting Knights' were a privileged body of men, well horsed and clad in armour, who made fighting their sole occupation in life. This was the only profession which most of them knew. The Samurai were a hereditary group of warriors who alone had the right to bear arms and were not permitted to engage in trade or other pursuits, which were considered to be below their dignity. As a mark of their standing, they carried two swords, these swords being the products of high craftsmanship and treasured family possessions.

Most of the Samurai owed allegiance to some baron or the other or to the Shogun. From their lords they received a stated allowance in return for their services. Only a few Samurai called 'RONIN' or 'Wave-men' were un-attached. Their freedom was not normal and was due either to an unusually adventurous spirit or to some calamity such as poverty or the extinction of their liege's house.

The Samurai were organised by fiefs. The feudal system produced loyalty to the local lord rather than to the state or the emperor or even to the Shogun who had his own group of retainers or Samurai. The Samurai of each clan were more than military retainers. They were the actual administrators of their respective clan affairs. In return for his loyalty and his services, the Samurai received his support in fixed payments of rice, or tax-free lands for cultivation.

Since the Samurai were professional warriors, they required a "gentlemen's agreement" covering a common standard of behaviour, when they went about their business of fighting or tax-collecting. For this purpose an ethical code was developed. This code of conduct was known as the *Bushido* or 'the way of the warrior'. *Bushido*, the ethical code of the Samurai reminds one of the chivalry of feudal Europe. It was a code of conduct to suit the times and was a result of years of development. It seems to go back to the times when the military class was forming. Under successive regimes it was elaborated and largely made over until it lost some rather ugly features of its earlier years. It was essentially Japanese, but in its later and elaborated forms it showed the influence of Confucianism and Buddhism, especially the former. Loyalty was the cardinal virtue of bushido. According to it, the Samurai must sacrifice life, truth and even his family if the service of his lord required it. Economy, simplicity of life and indiffe-

rence to wealth were exalted. For recreation military amusement was encouraged. Bread winning pursuits and regard for money affairs was held in contempt.

The Samurai above all valued self-control in the presence of pain and steeled himself to endure the most intense agony without flinching. Personal honour was highly valued and the sword of the Samurai, the sign of his rank although it must not be drawn, but for the gravest reasons, was ever held ready to avenge a slight to its owner or to its owners' lord. Honor was dearer than life, for a Samurai and in many cases self-destruction was regarded not simply as right, but as the only right course. The Samurai atoned for defeat and disgrace by suicide. The Samurai might protest against grave injustice by self-destruction and might by the same means, try to stop his lord from unwise or un-worthy action. Part of the training of every Samurai was the ritual for disembowelment, Hara-Kiri, the approved means of self-destruction and one of the highest tests of a Samurai's character was to be able, if the occasion demanded, to perform it calmly and without flinching. The wife of the Samurai was also influenced by bushido. She was to be self-effacing, and was to hide all traces of suffering or grief. . She was taught how to end her life simply in case the occasion demanded. By her example she exercised a profound influence over her husband.

It must not be thought that bushido, any more than chivalry was lived up to by all those who professed to be guided by it. The Samurai seldom attained to even his own standards. As in the case of chivalry, bushido profoundly influenced not only the Samurai, for whom it was primarily intended, but the civil population as well. Bushido like chivalry was to remain an active force long after the social order that had produced it disappeared.

THE ORIGIN OF THE SAMURAI

In the seventh century, in Japan, the Fujiwara clan started extensively to lay its hands on the government of the country. It assumed but few military positions, since they were considered socially inferior, but gradually attained all the important civil offices for the members of its clan. The Fujiwara supremacy was not attained without a struggle for from time to time, many of the monarchs asserted themselves. They were however made powerless by the introduction of a form of government by the military class. This change was brought about by a gradual evolution, which was partly the result of the weakness of the system that the Fujiwara themselves had created and partly of the growth in power of the military nobility.

The period of Fujiwara supremacy was one of great luxury. Large sums of money were spent by the court on the refinements of life. As a result of luxurious living and extravagant expenditure, degeneracy at the court began. This kept on increasing and gradually the court and its masters

began to lose control of the provinces for the expenses of administration grew without a corresponding increase in the revenue. With the decline of the power of the central government and growth of disorder, the owners of great tax-free estates were forced to depend on their followers for police purposes and aid against their neighbours. On these estates were then to be found professional soldiers who were recruited partly from the lords' own dependants, partly from wanderers from other clans where the conditions of life had become intolerable and partly from adventurous fellows for whom no career was open at home. These professional fighters gradually came to be controlled by a new nobility purely military and feudal and quite distinct from the older civil nobility that had its centre at Kyoto.

This military nobility was founded by the members of the imperial family who had now become nobles of inferior rank. They had left the capital in order to free themselves from the throttling influence of Fujiwara domination and sought their fortunes in the provinces as local officials and as the managers of the estates that were held by the absentee civil nobility. As years passed they became the leaders of the warriors who formed the only source of protection in the midst of the general disorder.

All these estates were far removed from the corrupting luxury of the court and by constant fighting among themselves and with the 'Ainu', a warrior class was developed, used to hardship and loyal to its leaders. This warrior class in course of time became a hereditary caste closed to outsiders. The people who constituted this warrior class came to be known as the 'Samurai'.

The Samurai were the pillars of the Japanese feudal system. They provided the country with a group of disciplined men accustomed to leadership and whom the people had been trained to follow. Thus came into being the warrior class of Japan—the Samurai.

RISE OF THE SAMURAI

During the period 800–1142 A.D. there was a rapid growth in the size and number of tax-free estates in Japan. This development led to the breakdown of the Fujiwara system and the ascendancy of the warrior class—the Samurai, who had by now established themselves, firmly and made a name for themselves.

Soon the estates 'Sho-En' began to bear the names of the landlords (Myo-Shu) who developed them. Myo-Shu, who controlled large estates were called Dai-Myo or great landlords. To safeguard their estates, the daimyo maintained military establishments and due to this arrangement the Feudal Baron 'Buke'—commonly known as Samurai attained authority in due course. With the growth and expansion of the Samurai the Fujiwara system started breaking up. In 1168 the Kamakura regime came into existence—the first of the Samurai regimes and marking the beginning of

Samurai domination of the country's affair. It came into existence as a result of Imperial recognition of the Samurai and resulted in Japan being dominated by a combination of Samurai, Fujiwara and Buddhist priests.

In the twelfth century, among the prominent Samurai class in the provinces were the Taira and Minamoto clans who had attained great influence in their respective domains in Western and in eastern Japan. In 1160 these two Samurai clans were involved in incidents arising out of internal strife, inside the Fujiwara family circle regarding the Imperial succession. After four years of fighting each other the Taira Samurai were victorious and their leader was appointed the Prime Minister. The Taira Samurai established themselves at Heian and thoroughly enjoyed the luxurious atmosphere of the capital. They lived on the fat of the land, became soft and lost a lot of their fighting quality while the Minamoto Samurai smarting under their defeat re-organised their forces and after a few years of preparation resumed hostilities. In 1185 there was heavy fighting but ultimately the Minamoto Samurai won under their leader Yoritomo who established his headquarters at Kamakura.

THE KAMAKURA SAMURAI

Minamoto Yoritomo head of the Kamakura Samurai was appointed General of the Imperial Guard and in 1192 received the title of Shogun, with instructions to maintain peace and order in the country. When he was appointed Shogun in 1192, Yoritomo obtained a national as well as an official position for his Samurai regime and—warned by the fate of the Taira clan—he remained at Kamakura in order to be clear of the demoralising influence of the court. The Samurai of his clan developed the martial side of their newly founded regime free from the frivolities of the aristocrats and priests.

To the bureaucracy of that time, the rise of the Kamakura Samurai was contradictory to the traditional principles of government centred in the Imperial throne. Hence a war ensued in which the Samurai won—the court officials responsible for this development being exiled. This resulted in the general collapse of the old social and economic order. It caused a mental and spiritual shake up of the old order.

The rise of the Kamakura Samurai coincided with the rise of the Mongols. In 1274 the Mongols launched their first attack on Japan in vain bid to conquer it, but were repulsed. In 1281 they again attacked in larger numbers. The Samurai were put to the supreme test and fought with the courage of desperation. The Samurai who had played an active part in defeating the Mongols now demanded more agricultural land as gratuities for their services with the sword and, by this time the Kamakura regime had most of its political power and had no spare rice fields to bestow on the Samurai in other parts

of the country. This led to ill-feeling among the various Samurai clans. Some of them in league with the lower classes acted together in an intrigue to undermine the power of the Samurai. Fighting started and the next two centuries were a recitation of disorder, turmoil and instability. Conditions generally, were similar to those which existed in England under Norman rule : land was divided into feuds held on condition that the tenants supported the war-lords, and with the decline of the Kamakura faction, another Samurai regime—the Ashikaga; stepped in to perpetuate the methods of administration instituted by the great Kamakura Samurai leader Minamoto Yoritomo in 1192 A.D. The Ashikaga Samurai established their capital at Heian, near Kyoto.

THE ASHIKAGA SAMURAI

The Ashikaga Samurai, blood descendants of Minamoto Yoritomo, took over the Kamakura system of political administration which had been established two hundred years earlier but they ruled in Heian and not in Kamakura. That was their undoing. The environment was too much for them—they became easy victims of the lascivious plutocracy which activated their morals and undermined their physique, with the result that the administration of the country went to the dogs. The Ashikaga Samurai were unable to maintain political control over the 'land and rice' economics when trade was increasing by leaps and bounds. Realising this they joined forces with the merchants and by contact with trade the physical control of the nation lost much of its virile Samurai characteristics.

The breakdown of the clan system and the birth of the family system was not confined only to the Samurai of the Ashikaga clan. Other Daimyo joined in too, taking sides in the dispute to correspond to their territorial requirements and safety. Territorial groups were engaged in ceaseless fighting to expand their authority, now—as never before—the code of the Samurai—the law of the two handed swords men—and the spirit of Bushido, had ample scope for expression in an orgy of blood letting.

Under these conditions rose men who were to form Japan into a centralised state and eliminate internal strife. Now birth counted less than it had in the past few centuries and men of merit and ability had better chances of recognition. Thus members of the lower orders of the military class arose and struggled to establish their supremacy. One of these was Iyeyasu who was responsible for the political bridge between the Ashikaga Samurai rule of instability and the resurgence of Imperial traditions—the coming of the Tokugawa regime.

THE TOKUGAWAS

The Tokugawas were particularly interested in establishing the prestige

as well as the duties of the Samurai, throughout the country. For this reason they went out of their way to promulgate a harsh and ascetic code of ethics, which would ensure the maintenance of the Samurai as a tough, loyal and reliable class. The Tokugawa Shogunate of two hundred and sixty eight years is a perfect example of the working of the feudal system—co-ordination of Shogun, Daimyo and Samurai for the exploitation of the people of the soil.

The rule of the Tokugawa brought internal peace to Japan though the people of the soil were hard pressed. With peace established, the tasks of the government increased as a result of which a necessity arose for trained administrators. For these administrators the government turned to the Samurai. The warring-spirit of the Samurai still remained, but the development of art by the Tokugawas, did much to divert the spirit of the Samurai from the use of the sword to the more peaceful requirements of those times.

DECLINE OF THE SAMURAI

The Tokugawa shogunate lasted from 1603 A.D. to 1868 A.D. and during all this time it maintained internal peace which was no small achievement. During this period however new forces arose in Japanese society. The social and economic revolution that marked Japanese development under the Tokugawas came about at least in part as the result of the measures taken by the Tokugawas to keep themselves in power.

Payment in kind and in services which previously provided the necessities of life had now to be transformed into money as a result of which the warrior aristocracy had to obtain credit on the strength of their feudal incomes. The stratification of society, combined with the long period of internal peace led to a disproportionate increase in the numbers of the non-productive class—the warrior class—the Samurai. Formerly the Samurai were expected to live on the surplus of the rice economy. For this and for other reasons such as the occasional separation of the daimyo from their fields, led to the development of an increasing number of impoverished Samurai.

The Samurai had neither rice dues nor the opportunities to perform the functions to which they were legally restricted. Some went into scholarship, but a large number of them turned to the cities and lost their class identity. Some turned to writing and some of the highly interested Samurai found it of financial advantage to marry into the family of the common merchant. The growing impoverishment of the Samurai and the enrichment of the merchants led to an increase in the number of inter-marriages between the Samurai and the merchant class.

The Tokugawa who had started the Samurai on the road to learning had little success in confining them to orthodoxy. Some of the Samurai, especially those belonging to the Western clans turned to the study of the history of their country. From their reading of early Japanese history,

the Samurai scholars found a useful weapon with which to challenge the ideological position of the Tokugawa shogunate.

Since peace prevailed during the Tokugawa period, the attention of the military classes was diverted from fighting to luxurious pastimes of peace. As a result of this the Samurai as a class declined even though the Bushido was elaborated more and more, day by day. However, the spectacle of a military class being served by the entire nation and yet having not fought for decades, was inconsistent. Luxury was sapping the strength of the Samurai of the Ashikaga clan. However, there is no social dynamite, quite so powerful, as that which can be generated by a social group, which is accustomed to rule but has lost its opportunity to do so.

THE RESTORATION AND THE SAMURAI

The Japan of late Tokugawa times was a society in the process of change. Practically every class was clamouring for changes—the rich merchants men, the peasants and the restless Samurai. The Shogunate was not able to find solutions to pressing economic problems which it did not understand or to control social changes which it did not approve. The coming of the foreigners and the signing of the Harris Treaty in 1858 by the Shogun without the Emperor's support led to the downfall of the Shogunate and the taking place of the Meiji Restoration in 1867 A.D.

The forces which finally overthrew the Tokugawa and their allies were the four great western Samurai clans—Satsuma, Choshu, Hizen and Tosa, which provided the armies and the territorial base of operations; the emperor and the court nobility who served as the ideological justification for the overthrow of the Shogun; the merchants who contributed money and the peasants who not only provided soldiers but whose general discontent weakened the fiefs. Direction of this alliance came from the Samurai, some of whom were the actual administrators of their fiefs, some of whom were intellectuals or new style warriors, and all of whom were convinced that the Tokugawa had to go.

It has been estimated that about one hundred men actually directed the Restoration movement and set the policies of the Meiji government. Nearly all of them were Samurai belonging to one or the other Samurai clans. Foremost among them were Kido Koin, a Samurai of Choshu, Saigo Takamori of the Samurai of Sakuma and two others—Sanjo Sanetomi and Iwakura Tauomi. These young men who led the Restoration knew a great deal about the organisation of western countries and in particular about the sources of their military strength. One important indication of this was the departure from the tradition of a privileged warrior class by recruiting well-to-do peasants into a modern army trained on western lines. The young Samurai who came to power in 1868 had thus initiated important changes and knew in general what kind of government and society they

wanted. The various elements which combined to make the revolution were so disparate that it was no easy task to bring them together. The Samurai leaders of the Restoration were quite willing to go along with any groups they could use so long as they fitted into the strategy of destroying the power of the Tokugawa which was for them the first step towards abolishing the institution of feudalism.

The attitude of the Samurai leaders was shown very clearly by the way they handled the Tokugawa after their defeat. They took over some, but not all of the fiefs and administered them directly, rather than leaving them directly under the feudal arrangements. The real leadership of the Restoration movement remained in the hands of the Samurai from the four great western clans, who by and large kept themselves in the background and manipulated the affairs of state through officials with high sounding names and titles just as they had done formerly in their fiefs. They understood what the masses failed to perceive, that there was no future for feudalism.

CONDITION OF THE SAMURAI AFTER 1870 A.D.

After the Restoration, the Samurai leaders moved rapidly and skillfully towards the abolition of feudalism. They sent government officials to each fief as representatives of the central authority. They then persuaded their own clans to hand over their domains to the emperor. This precedent was then used to compel the other feudal lords to do the same. In 1871 the leaders felt strong enough, leaving behind them the troops of the western Samurai clans, to issue an imperial rescript abolishing the feudal fiefs and clans putting an end to feudalism. The rewards for the western Samurai were high, for they were in a position to gain much more from office and power in the new government than returning to their old domains. But the Restoration leaders saw that all the feudal lords were well compensated for the loss of their feudal rights. They were granted an annual pension of one tenth the nominal income of the estates which they had returned to the Emperor.

This was a very profitable exchange because the feudal lord was no longer responsible for his Samurai. The daimyo was also well taken care of when later it established its new aristocracy by the Peerage Ordinance of 1884. The government did not provide as handsomely for the two million or more members of the former Samurai class. In 1872 the old class distinctions based on occupation were abolished and the Samurai lost their privileged position. This involved an adjustment which all were not able to make.

The pension scheme for the Samurai reduced their actual incomes by half which in effect meant that they had to find some other ways of making a living. The more enterprising and able Samurai either found positions in the new administration or moved into commerce and industry, but for

the bulk of them the revolution seemed to have brought little reward. The government was not indifferent to their fate; in fact it gave the Samurai preferential treatment in its own enterprises and pushed them into commerce and industry. The Samurai naturally gravitated to the army, navy and the police corps—to which they brought the Samurai contempt for the common man—to teaching and to less respectable occupations.

The Samurai tradition lasted longer than the class. It was a tradition of valour and sacrifice and also violence. For many years there were always available to unscrupulous men, political parties, and even the government, men who could do anything from starting a riot to committing assassination. The Restoration thus brought benefit to everyone except the Samurai. The peasant who was previously a virtual slave, now became a free man, able to move and own land. Everyone, therefore, except the Samurai went up in the social scale.

THE SAMURAI AND THE NEW SOCIETY

In the year 1873, in which the government started the national tax on land, opened the first national bank and suggested the commutation of pensions, the problem of the Samurai came to the fore in another form. It was far too soon for the social energies of the Samurai to have been redirected with complete success into the building up of the new state. The natural bent of the Samurai was to make a living as warriors; this was the only profession most of them knew. Many of the Samurai had taken very seriously one of the important elements in the ideology of the Restoration movement, the appeal to the ancient glories of Japan and in particular the doctrines of the great prophet of ultranationalism and expansionism.

Ignorant of the relative strength of Japan and other countries and of the facts of international life, a considerable group of Samurai were in a mood where they sought not the long-range interests of the state but the short-range satisfaction of engaging in war. Many of these conservative Samurai were particularly angry at the refusal of the most important Restoration leaders to embark upon punitive action against Korea in 1873. The Korean government had refused to receive a Japanese mission or to resume the custom of paying tribute. This might not have aroused so much feeling had not the Korean government answered the Japanese commissions in a very aggressive and insulting manner. On hearing the rising demand among the Samurai for war, the Iwakura party which had gone to Europe, returned hastily and proceeded to block the war party. As a sop to the advocates of war a small expedition was sent to Formosa, but this did little to satisfy and nothing to appease the conservative Samurai.

The government proceeded to take further steps to absorb the Samurai into the new social order. In 1876 it issued a ban against the wearing of the sword in public, a traditional Samurai privilege and the distinguishing

mark of the class. In the same year the tentative plan of 1873 for the commutation of pensions was made compulsory. Frustrated by the decision against war in 1873, angered and warned by the measures of 1876, the Samurai of Satsuma came out in open revolt against the government. They were led by Saigo Takamori, one of the young Samurain who had played an important part in Restoration but who had not gone along with the revolutionary changes which followed it.

Saigo had offered to go to Korea in 1873 at the head of a mission which he argued would be insulted by the Koreans and thus provide occasion for war. Saigo felt that the best way to take care of the demoralisation of the Samurai, which followed their loss of status and privilege, was to occupy them in war. In 1876 his followers involved him in fighting with government forces, and the die was cast. Saigo led a large scale rebellion of the Samurai. After eight months of civil war, the government conscript forces inflicted upon the rebels a defeat so crushing and final that never again was the government challenged by force. Saigo died in the battlefield.

The strength of the young ex-Samurai reformers was that they had a firm grasp of the essentials of power. If a strong army had not been built up by them, all other things would have failed. By and large, they chose well, selecting what they wanted with the trained eyes of men who had not only seized, but were creating, power. The Samurai oligarchy did not merely order and dragoon the Japanese people into a new state and society. It released enormous social energies by changing the relationships between classes and by setting up a new institutional pattern within which those energies could find expression. An important part of that institutional pattern was the constitution of 1889.

THE SAMURAI OLIGARCHY

From the time of Meiji Restoration the government of Japan was in the hands of a small group of ex-Samurai, an oligarchy with unlimited powers. This oligarchy took over the Tokugawa administration intact and filled all positions with Samurai from the four western clans. Given the continuing strength of personal and clan loyalties, it is clear that the Restoration leaders had to fill every post with men they could trust. The oligarchy could neither anticipate events nor control all the forces it had released, but because it was generally in agreement about the direction in which it wanted to go, it could usually maintain the initiative. Nowhere is this more clearly seen than in the events leading up to the granting of the Constitution in 1889.

The first step towards the Constitution was taken at the time when the oligarchy crushed the powers of the Tokugawa. When the Shogun was under pressure from Admiral Perry to open the country, he put his problem to a group of feudal lords and imperial councillors, thus sanctioning the principle of a deliberative assembly which was then pressed by the anti-

Tokugawa forces. When the Restoration was completed, however, the leaders sought to modify the implied intention of continuing the assemblies, which some of the Samurai of Tosa had made specific—an upper house of fiefs and a lower house of the Samurai—and set up a very narrowly based ruling oligarchy. It was to satisfy the pride and prestige of the feudal lords and Samurai, that the government set up, after some experimentation, a deliberative assembly 'Dajokwan', which consisted of two houses, an upper house or council of state made up of feudal lords and higher Samurai, and a lower house or assembly made up of representatives of the Samurai in general.

All might have gone well if the Samurai oligarchy had remained united, but it did not. The Korean issue of 1873 split the oligarchy wide open, and such was the unusual determination of these unusual men that in the case of Saigo, the issue had to be settled by armed conflict. The Samurai who split up with the oligarchy devised ideological weapons which could be used to embarrass the ruling oligarchy, these weapons being borrowed from the west.

With the granting of a constitution in 1889 a legislative body—the Diet was set up to initiate legislation and approve the budget. The actual exercise of power was carried out through a number of organs grouped around the emperor. There was added to the processes of government by unwritten tradition an institution which came to be important and influential, the group called the 'Genro' or Elder Statesmen.

This group—the 'genro' was composed of Samurai from the clans of Satsuma or Choshu. The 'Genro' were the political leaders of the Meiji period who, after an active political life, became the highest advisers to the Emperor and formed an inner core of political power. It is no exaggeration to say that the actual leaders for the last twenty years of the nineteenth century and the first twenty years of the twentieth century were the genro. The genro provided the answer to the problem of running an absolutist administration within a framework of representative government.

Thus we see that though the Samurai had ceased to exist as a separate and privileged class, but still the country was run by people who were Samurai by birth. The Samurai oligarchy had created a new aristocracy which reflected the social and economic changes which had taken place in late Tokugawa and early Meiji times. This new aristocracy was composed of representatives of all the main groups which had taken part in the Restoration. This new aristocracy was a mixed group of court nobility Samurai and wealthy merchants men. The Samurai oligarchy could count on the general support of the aristocracy which it had either created or brought to new heights of prestige and through the powers of the emperor could always co-opt into its ranks the cream of Japanese leadership from any important class or group.

The oligarchy sprang from the military or warrior class and its success had depended very largely on its ability to organise and use a revolutionary army, which crushed all opposition to the new order. So we see how the Samurai got absorbed in the new society. Besides, making a name for themselves as administrators after the Restoration, the Samurai also distinguished themselves in trade and industry which led to the emergence of the Zaibatsu.

ABSORPTION OF THE SAMURAI IN TRADE AND INDUSTRY

Another offspring of the former warrior class the Samurai was the 'Zaibatsu'—a group of wealthy businessmen who played an important part in the industrial development of Japan. The old commercial class which had grown up under the Tokugawa rule did not establish its economic leadership in spite of its important role in the Restoration. The leadership or the industrial movement came more from the old warrior i.e., Samurai than from the pre-Restoration commercial class. There had been some movement of Samurai into business connections and activities before the end of the Tokugawa; in fact there had been intermarriages between samurai and merchant families. It was the deliberate policy of the Restoration oligarchy to make business respectable for the ex-samurai and to seek strong leadership from this class. The reasons for this are not far to seek. The prestige of the Samurai had not been shattered by the fall of the Tokugawa; on the contrary it had been built up by the ideology of the Restoration movement, and the warrior code had been extended to the raw peasant conscripts in the national army.

Being an entrepreneur in earlier Meiji Japan required more than commercial skill; it required also high qualities of leadership and the confidence and support of the government. Leadership came more naturally to ex-members of a ruling class of warriors, however impoverished they might be, than to the socially despised merchants, in spite of their wealth and newly granted social equality. The government was very much concerned about the economic problem of the ex-samurai. In the Restoration settlement they had been paid off for their loss of feudal income but what they did for a living was upto them. Many could not re-adjust themselves to the times. For those who could there was the choice of industry, government service, or politics. The policy of selling government plants to private entrepreneurs was probably part of a more general policy of making business respectable for members of the old warrior class—the samurai, and of giving some of them a flying start in order to encourage the others.

The recruitment of ex-samurai into the ranks of commerce and industry, banking and foreign trade brought into these fields men whose values differed little, if at all, from those of the one time samurai of Satsuma and Choshu, who were now the ruling oligarchy. They were men who transferred to economics the views they had of politics and who saw nothing unusual in

the close association between a political and economic oligarchy. They did not want to restrict and control the power of the government; rather they competed for its strong and paternalistic protection.

MODERN OUTGROWTHS OF THE OLD SAMURAI IDEALS AND TRADITIONS

The patriotism of the modern Japan, the self-conscious nationalism which so centres in the institution of the emperor, has grown up largely from Samurai ideals. The intense national spirit of today is, however, partially an outgrowth of features of the older Japan. The loyalty of the Samurai to his lord, a keen sensitiveness to ridicule and insult, the solid foundation produced by the Tokugawas, and the atmosphere of sanctity surrounding the Emperor. The individual Samurai as we have seen, had originally little if any feeling of attachment to the emperor at Kyoto or to the nation. The Samurai would not have tolerated the taking of the throne by one not descended from 'Jimmu Temo', and the Samurai resented the invasion of the land by the Mongols, but it was not until well in to the Tokugawa regime that even some of the Samurai began to be passionately conscious that the country was the 'Land of the gods' and to be sensitive to the lack of power of the rightful sovereign. The Samurai did, however, have a real sense of loyalty to his lord. The spirit of personal loyalty was during the old regime directed toward the lord, but with the passing of feudalism it centred itself on the person and institution of the Emperor with an intensity which it is hard for foreigners to appreciate, and contact with the nations of the west wakened into life a hidden but earnest love of country.

Another characteristic of the code of Samurai was extreme sensitiveness on points of honour and in past days personal insults were often avenged by death. He was intensely proud of his rank, at times boastfully so. This pride seems almost to be a racial characteristic, for it is older than feudalism. It has survived the latter and it is national as well as personal. It helps to explain the resentment of the Japanese at the discrimination against their fellow-countrymen in the western world. They strongly resented the attempts at exclusion by law from the United States and Canada, partly, it is true, because of the economic disadvantage at which they were placed, but primarily because these measures, which applied to no Europeans, seemed to brand them as inferior and so to be a slur on their national honour.

Another characteristic of both old and modern Japan was bureaucracy—the predominance of state supervision as contrasted with individual, initiative and activity. All phases of life were subject to regulation and supervision. Order and peace were maintained by the most rigid conformity to law. Collective responsibility was enforced; the family was held accountable for the deeds of its members, and the village for those of its inhabitants. Partly as a result, in the new Japan social action has been

emphasised to a high degree. This emphasis upon collective action had many advantages for Japan in the twentieth century, when the nations of the West were tending to decrease state direction of industry, transportation and commerce. This has been one of the most outstanding features of the administrative system of the recent Japan. Its higher positions have been filled largely from the ranks of the Samurai and their descendants. It is a continuation of the spirit of former times, a careful and minute control by the government of all phases of human activity.

Yet another characteristic of Japan of the Samurai times was its experience in assimilating foreign culture. Even during the feudal ages, so distinctly Japanese, the country was at times and in some phases of its life much affected by the continent. Bushido, while unmistakably Japanese, showed the effect of both Confucianism and Buddhism. Feudalism grew up partly as the result of the failure of the attempt to adapt the administrative system of China to Japanese conditions. And yet the people of Japan were not blind imitators. As much as they admired the civilisation of the Continent, they were not content to be slavish copyists. This experience in assimilating foreign ideas and institutions was an admirable preparation for the coming of Europeans. Her national pride caused her to be fearful of any charge of barbarism, and her past made it natural for this pride to lead her, not to reject the culture of the West, but to hasten to adopt as much of it as she needed.

All these characteristics are still to be seen in the Japan of today. Though the class which developed these ideals does not exist any more but its ideals are still alive. The spirit of the Samurai is still the guiding force of the modern Japan. This was especially true in the case of World War II. The ferocity with which they fought and the way they laid down their lives in the service of their country can bring forth nothing but admiration. In the battles of Okinawa and other Pacific battles at the tail end of war were examples where Japanese Bushido was matched against American steel, and they fought it out until there were few if any Japanese left to tell the tale. It was the militant spirit, translated into action, which saved Japan from becoming a dependency of one or the other of the Western powers after the Meiji Restoration.

The presence of the Samurai was a distinct advantage of Japan in the new age brought by contact with the West. It provided a group of disciplined men accustomed to leadership, and whom the nation had been trained to follow. Until 1945 the government was dominated by the successors of the old Samurai families. Japan, under the leadership of her Samurai, and especially under their martial traditions, found it comparatively easy to adjust herself to Western ways. The obedience, physical courage and willingness to fight bred by the ages of her military past had a very large part in enabling her to make herself feared by western powers and assumes a place among them. Due to this Japan, as we saw was compelled to assume

the defence of the entire Far-East against the West. For her eagerness to attempt this Japan must be partly thankful to the training given by the years of Samurai rule and feudalism.

Had it not been for her Samurai, Japan would not have come out as the foremost power in the Far-East. The Samurai with their intense loyalty, selfless devotion and willingness to sacrifice everything for the sake of the country, developed Japan into a great nation. Though the Samurai are no more today, but their spirit is still alive and have left an unmistakable stamp upon the ideals and the culture of the nation.

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BOOK REVIEWS

PEOPLE AT WAR 1914—1918

by Michael Moynihan

(Published by David & Charles, Newton 1973) pp 222 price £ 2.95

THIS book contains nine independent accounts by different individuals of experiences in World War I also known as the Great War. It is an attempt to reawaken in U.K. an interest in the Great War, but perhaps more so with the idea that now when Britain is a second rate nation to bask in the glory of its past greatness. I do not think that the present generation in Britain with its prevailing permissive society will be carried away by jingoism or the exploits of Dad's Army. Neither will the old spirit of patriotism, loyalty, the bonds of the old school tie have any different effect. In any event these traits on which the author tries to lay much stress in the book are not the prerogative of the British people alone. These traits have been displayed in the past and will be so in the future by all nations in one form or the other in times of national wars. The recently concluded war in Viet Nam perhaps has had a more profound effect on the present generation all over the world including Britain, if nothing else to illustrate the indomitable spirit of mankind to defend their freedom against the tyranny of mankind and for the preservation of integrity of their nation.

The stories written from accounts and events recorded in diaries kept at that time or from memory or notes after a lapse of six decades and that too at the level of subaltern, private soldiers and Petty Officer has no historical or military significance.

I doubt if the book will arouse much interest in Britain leave alone outside it. May be some old soldier may find it tolerable as bedside reading material musing in turn with a thought or two of his own exploits in World War II and looking upon the stories narrated in this book as mere chicken feed as compared to the ferocity of the battles on land, on the sea and in the air as well as enormous suffering of the civilian population in those terrible years between 1939 and 1945. He may perhaps just put the book aside when he ponders over the horrors of Hiroshima and Nagasaki and the shape of nuclear holocaust of future wars which is bound to give him nightmares. Yet I believe, notwithstanding the ominous future concepts of war, so long as human beings survive, the same spirit of sacrifice, endurance, courage and fortitude will prevail not only in Britain but wherever wars are fought.

SNA

CRUSADE IN SPAIN

by Jason Gurney

(Published by Faber and Faber London, 1974) pp 189, price £ 2.95

THIS book gives the reader an interesting account into the formation and functioning of the International Brigades, its constituent units particularly the British and later the Lincoln (American) battalions and an account of their actions in the battle of Jarma River against Franco's forces during the early part of the Civil War in Spain.

The author Jason (Pat) Gurney who prior to his enlistment in the International Brigade was an upcoming freelance, free-loving and free-thinking sculptor. Like many of his kind during the period of time in the early nineteen-thirties, he was drawn to radical politics in an era beset with indecisive politics, economic depression and creeping communism on one hand and the rising militant right wing dictatorship of Hitler's Germany and Mussolini's Italy on the other. The British working class felt an extra hatred and fear of Fascism. They had seen the Trade Unions and every class of organisation destroyed in Germany and Italy. In Spain they had seen a Popular Front Government duly elected to be immediately overthrown by a coup d'etat of the ruling class and they were alive to the fact that this could happen at home in England. They had, therefore, reason to fear and hate Fascism not merely as individuals of tender conscience but as an entire class. The Spanish Civil War seemed to provide the chance for a single individual to take positive and effective stand on an issue which appeared to be absolutely clear. Either you were opposed to the growth of Fascism and went out to fight it, or you acquiesced in its crimes and were guilty of permitting its growth. In these circumstances it is therefore not remarkable that the overwhelming majority of the so-called "soldiers" in the International Brigades were members of the working class. If in this process besides poets, dons and academicians, politicians and intellectuals of different hues and shades there were also others who comprised of homosexuals, criminals, drunkards and the scum of the society it did not matter so long as they were true to the "cause". With this background the heterogeneously composed International Brigades were thrown against Franco's well-trained and well-armed professional army backed by the latest and most lethal military hardware made freely available from the arsenals of Nazi Germany and Fascist Italy. Soviet Russia on the other hand provided the Republican Forces political and ideological leadership, obsolete and ancient weapons, much lip sympathy and large doses of communist propaganda. The ultimate outcome of the Civil War was not difficult to foresee, but by the time this hard fact had dawned on these wretched idealists who belonged to the International Brigades thousands of lives were lost only to see at the end of the Civil War a Fascist type dictatorship being ushered by Franco in Spain which has only recently ended with the death of the Caudillo. In fact, the Western democracies at that time had failed to act decisively during the

Spanish Civil War where the forces of communism, Fascism and democracy confronted each other in what turned out to be a dress rehearsal for World War II.

The communist propaganda had built up the International Brigade as a well-armed, well-trained and a highly disciplined force. In reality they were equipped with obsolete arms and mismatching ammunition; had no training whatsoever, their morale was at rock bottom and they were a rabble. There was complete lack of military leadership at every level and all that the men got in abundance was communist propaganda—from the political commissars of the Brigade. No wonder then that due to the total lack of any military organisation and in the absence of any well-planned strategy or tactical concepts and plans the battalions, in its very first military engagement and that too within the first hour of the commencement of the battle of Jarma, were more or less decimated.

Although from a purely military point of view this book may not offer much in the way of a serious study of the battle of Jarma River, yet it contains many useful lessons for the discerning. The book may also serve as a warning to those who are enamoured by the Soviet, Chinese and Cuban call for "volunteers" to fish in troubled waters in the affairs of other countries' internal armed struggle as recently being witnessed in Angola. To those who are carried away by communist propaganda and ploy may soon realise that their fate will also be similar to those who fought in Spain 40 years ago. George Orwell sums this aspect realistically in his book *Homage to Catalonia* thus "as a militiaman one was a soldier against Franco, but one was also a pawn in an enormous struggle that was being fought between political theories".

Events in Spain at the time this book is being reviewed (Dec. 75) have taken a full circle in the last 40 years since the Civil War. Franco, the dictator, is dead and Spain is now once again being ruled by a monarch when monarchy all over the world is completely out of fashion. Yet it would be well to remember that the two and a half years of civil war constituted one of the grimmest episodes in modern European history. Military campaigns of unparalleled ferocity led to enormous casualties on both sides usually for little or no strategical gains. The battle of Jarma River, where the author had seen action, and which lasted 21 days, resulted in estimated 45,000 casualties; Republicans 25,000 and 20,000 Franco's forces. Although General Mola's forces successfully crossed the Jarma River and advanced up to three miles, the attack had completely failed and so was its main purpose of cutting the road from Madrid to Valencia.

Spain today is like a car driven by an inexperienced driver who may be incapable of avoiding a headlong collision at the next crossroads. The next few months will show whether the new monarch Juan Carlos can guide his subjects from the transitional phase of repressive dictatorship to democracy.

This is a well-written and an interesting book. Although the author died a couple of years ago, his military account of the formation of the International Brigades and his vivid description of the battle of Jarma is authentic. While one may or may not agree with his political philosophy now recounted in the book after 38 years through hind-sight, there is no doubt that at the end he realised that vague idealism had no part to play. His dilemma and that of others like him can best be summed up in the words of Albert Camus "It was in Spain that men learned that one can be right and yet be beaten, that force can vanquish spirit, that there are times when courage is not its own recompense. It is this, doubtless, which explains why so many men the world over, regard the Spanish drama as personal tragedy".

SNA

The ARMY OF FREDRICK THE GREAT

by Christopher Duffy

(Published by David & Charles, Newton Abbot, 1974) pp 272, price £5.25

THE victor of a decisive battle invariably emerges unscathed, with his forces almost intact. Contrary to the belief of some analyst's, victory in battle is attained not because the victor's physical and material losses are relatively light, but *because a victor wins decisively his losses are negligible* in comparison with his adversary's. The point is that decisive victories in battle are attained—even making due allowances for the proverbial fortunes of war—because of the superior planning, preparation and manoeuvring of forces by the winning side. The decisiveness of the victory would be enhanced considerably by the skilful exploitation of fleeting opportunities by troops on the winning side.

A leader who with a force of no more than 22,000 men facing the combined armies of the French and Germans totalling 40,000 was able to defeat them decisively, capturing, wounding or killing over 10,000 for the loss of only 548 of his own men would certainly be considered an outstanding general at any time. But the claim of Fredrick II of Prussia to fame rests on other grounds too.

He carefully chose and trained his troops, building on the legacy bequeathed by his father and forged an instrument which he could use to good purpose to further state policy.

Fredrick's principal contribution to the evolution of military strategy was the recognition that in the environment he found himself in a small poor country such as his, hemmed in by more powerful countries on all sides, could only expand by judiciously waging wars. But such wars had to be deliberate acts of state policy and had to be decisive. Armies in his day endeavoured to avoid battle. When avoidance of battle became impossible, armies got locked in close combat leading to massacres with neither

gaining victory and both sides losing heavily. Fredrick sought to change this pattern by *planning* for decisive battles right from the start, manoeuvring his forces into battle in such a way that his adversary had no option but to escape along routes deliberately left open, or fight at points of Fredrick's choosing. This is the essence of generalship; but before a general can plan battles and deploy his troops for decisive action, he would have to organise, equip and train his troops to a high pitch of efficiency. Fredrick devoted all his energy and talent to fashion his army into an efficient and dependable instrument neglecting no aspect of the recruitment, organisation, equipment or the training of his troops.

Perhaps his guns were less powerful than those of some richer European princes; but Fredrick made good use of such as he could make and provide his troops.

Fredrick's achievements as the builder of Prussia and as one who laid the foundations for the Germany of Bismarck are impressive; but the historian examining in detail the military machine created by Fredrick, the standards of discipline imposed, and the treatment meted out to the rank and file by the officers, may well find, as Christopher Duffy has noted in his admirable history of the army of Fredrick the Great, that as one comes closer to the old king, "the less appealing he becomes".

But one has to judge personalities and events in the context of contemporary standards. On that reckoning, Fredrick's apparent callousness in permitting harsh treatment of the rank and file of soldiers by their officers, would appear to be by no means exceptionally severe or callous.

Realising that an efficient army needs good officers and generals, Fredrick devoted as much time to train his officers as to provide his troops with the needed weaponry. But if training has to stand the test of battle, it would need to take due account of lessons brought out in battle. Fredrick had started with the assumption that will-power of commanders and troops, and the awe inspiring sight of troops advancing with determination would be more effective against defenders-the bullet. After the serious reverse than suffered by his troops at the Battle of Rossbach, Fredrick revised tactical doctrines, quickly recognised the potency of fire power noting that "battles are decided by the superiority of fire" and "a force of infantry which loads speedily will get the better of a force which loads more slowly".

Mr Duffy's account of the Army of Fredrick, the Great is a very well produced and readable account of the army of Frederick dealing adequately not only with the strategical and tactical concepts of Fredrick but equally of the way Prussia organised, equipped and maintained her forces, enabling that small principality to influence European history in later years.

RRR

AIRSPPEED AIRCRAFT SINCE 1931

by HA Taylor

(Published by Putnam London 1970) pp 206, price £ 2.50

TODAY not many people know that there once existed an aircraft manufacturing company, Airspeed by name, which during its twenty years of existence, from 1931 to 1951, designed and made a dozen different aircrafts and many variants. Most of these aircrafts were amazingly advanced in design for their time and two in particular, the twin-engined Oxford trainer and the Horsa troop and vehicle carrying glider, acquired considerable fame during the World War II. In June 1951 the Company was merged with de Havilland and thus ended the career of a company which had battled its way against overwhelming odds with determination for twenty years, producing civil aircraft when those which wanted to survive had managed to procure military orders.

Piecing together the history of a company and its products some twenty years after its liquidation was indeed a challenging undertaking and in doing so Taylor has managed to weave an interesting story. His painstaking research not only in collecting information about long forgotten facts but also in locating rare photographs of Airspeed men and machines and putting both, the information and the photographs in a most felling manner have made his narrative exceedingly absorbing. Taylor's book is, no doubt, a valuable contribution to the history of aircraft design.

KST

MILES AIRCRAFT SINCE 1925

by Don L Brown

(Published by Putnam, London 1970) pp 420, price £ 2.25

THIS is a fascinating story of F. G. Miles' adventures as a flier and a designer. Don L. Brown, the author of the book, was a colleague of F.G. Miles and has an intimate knowledge of Miles as a man and as an outstanding designer. Brown has an inimitably racy style and his narrative of Miles' adventures presents an exceedingly lively and interesting picture and captures the mood of carefree impetuosity of those days when rules and regulations about obtaining licences did not kill the exuberance of a band of youngmen.

It was at the age of thirteen that F.G. Miles decided that he had enough of schooling. He borrowed money to purchase a decrepit motor-cycle and started hiring it out to the boys of his village for six pence a hour, from this modest business Miles ended up by setting up an organisation, which over the next twenty years built some 7000 aircrafts and employed over 6000 workers. Miles designed some 200 aircrafts in all and Brown, after having

described the early days of Miles' struggle, goes on to describe each of these designs with photographs and diagrams.

Brown has a captivating style and his narrative, full as it is with interesting anecdotes, makes this book highly readable. Brown has presented a saga of a youngman's determination to be a designer against many odds and in so doing gives us a treasure of photographs and information.

KST

THRUST FOR FLIGHT

by W. Thomson

(Published by Pitman, London 1969) pp 182, price 30s

THIS book is a companion volume to the well-known *Flight Without Formulae*, which has now become almost a bible to all those interested in aeronautical engineering. The immense popularity enjoyed by the *Flight Without Formulae* was due to an absence of formulae and mathematical works which generally frighten readers. This book follows the same pattern and discusses the subject of thrust in a lucid, simple and understandable language without mathematical formulae. The value of this book is further enhanced by the fact that it discusses under one cover both the piston engines and the turbines and thereby achieving a unique distinction, for rarely, if ever, any single book discusses both types of engines together in one volume.

The *Thrust For Flight* covers a wide spectrum of aircraft engines, from piston engines whose horse-power increased from about 1,000 pounds to over 30,000 pounds. The author begins by setting out the fundamentals with illustrated explanations and then goes over to explain principles common to propulsion by propellers, fans and jets. The subject of propulsion has been treated with masterly skill, avoiding, at considerable pain, all such details which could obscure the subject accompanying diagrams are simple and short of complex drawings showing nuts and bolts.

The book gives one hundred questions at the end to check as to what extent the reader has been able to assimilate information given in this book. The questions reinforce knowledge gained earlier and help the reader in clarifying his doubts. The author gives 48 pages of sharp and clear illustrations on art paper of various kinds of engines to give a clearer idea to the reader.

It is an excellent work and is equally useful to engineers and to laymen. All those who have anything to do with an engine, whether a motor transport engine, a marine engine or an aircraft engine would find this book an invaluable addition to their home library.

KST

MILITARY AIRCRAFT OF AUSTRALIA 1909-1918

by Keith Isaacs

(Published by Australian War Memorial, Canberra, 1971) pp 190, price £6. 50

THIS is the first of the proposed four volumes of Military Aircraft of Australia covering the period from 1909 to 1971. The idea to produce these volumes was conceived while Harold Freedman, an official war artist, was commissioned by the Australian War Memorial in 1968 to paint all the military aircraft flown by Australians. The author, Wing Commander Keith Isaacs, was acting as a technical adviser to Freedman and the War Memorial thought that Isaacs was the best person to provide the narrative to the murals of Freedman. The result was the production of this delightful volume which contains the history of aviation in Australia from 1909 to 1918, along with the paintings of Freedman. During the period covered in this volume, Australia used over 40 different types of aircraft and the author presents the history of each in a factual and interesting manner bringing out new material and narrating numerous unusual incidents.

Accompanying the comprehensive and authoritative text of Wing Commander Keith Isaacs are 24 coloured, pages of Freedman's aircraft murals which portray the design and colour of the aircraft in a style and perception which could not be achieved with photographs. The combination of the lucid and interesting description of Keith Isaacs and the paintings of Freedman invest this book with a quality which sets a trend for the remaining volumes to follow.

KST

TWENTY ONE SQUADRONS THE HISTORY OF THE ROYAL AUXILIARY AIR FORCE 1925-1957

by Leslie Hunt

(Published by Garnstone Press, London, 1972) pp 431, price £ 6.00

IN contribution of the Royal Auxiliary Air force to the victory of the Allies in the World War II, was as magnificent as that of any fighting formation and yet there was so far no recorded history of its exploits. Leslie Hunt's effort, therefore, to present the first history of the Squadrons of the Royal Auxiliary Air force fills a long felt need. What makes Hunt's history doubly welcome is the meticulous care the author has taken in presenting his narrative both with regard to the official facts and the human side of the story.

It is interesting to learn that the first enemy aircraft to be shot down over Britain in World War II fell to Auxiliary Air force pilots of 602 and 603 Squadrons on 16th October 1939. The Auxiliary Air force has also the distinction of having brought down the first German pilot on the British soil and of deploying fourteen out of sixty six RAF Squadrons during the famous Battle of Britain. The Auxiliary Air force had in all twenty-one

(Continued on page 334)

CORRESPONDENCE

*Correspondence is invited on subjects which have been
dealt with in the Journal or which are
of general interest in the Services*

To
THE EDITOR
USI JOURNAL
KASHMIR HOUSE, KING GEORGE'S AVENUE
NEW DELHI-110011

TOWARDS A NATIONAL ARMY

Sir,

THE USI of India Journal of Jan-Mar 1974 has just reached me—over 12 months after issue!

In it I have dipped into your excellent article "Towards a National Army" and the section dealing with "Representation" particularly interested me.

I served for 30 very happy years (1918–48) with Madras troops and during the latter part of the period I became R.O. Madras Classes.

The Madras soldier makes as good a soldier as any and I tried hard to obtain a larger slice of recruiting demands for the Madras area from AHQ. I did succeed in getting their agreement to reform the old Madras Regiment (that had been disbanded in 1928) and I had the happy task of re-raising it in 1942 at Madukkarai near Coimbatore.

There are plenty of good willing volunteers from all over Madras, Andhra, Kerala and Mysore.

We in the old Madras Army always admired the so-called "martial races" (Sikhs, Rajputs, Marathas, Dogras, Jats, Garhwalis, Kumanis, etc.), but we also knew that our own men were just as good if they were given the chance. As you probably know we were "mixed Madras is, which meant that we made no difference between class or creed—Hindus, Mussalman, Christians and Harijans all worked, lived and fed together—the odd Buddhist also! They all got on splendidly together. This might not work in the case of Regiments which have a long tradition of class companies.

I agree with you that other classes not at present represented in the army should be encouraged to join. But their introduction will need very careful handling and planning in the early stages—in recruiting, training,

officering and building up of morale and tradition. Really good officers will be essential.

You rightly mention the language problem. Madrassi recruits speak Tamil, Telugu, Malayalam and English is known by quite a few of them. We taught them all Urdu in my days, which acted as a *Lingua Franca* within the Regiment and for communication with other Regiments and Corps. Now-a-days presumably Hindi would be taught in all units.

India in the past has produced one of the finest armies in the world and, given time and the opportunity, could, I'm sure, produce a still more representative one of all her peoples, with deep allegiance to their country. The Services Chiefs must be persuaded to work to achieve this; but will the politicians agree? It will cost money.

I have made three return visits to India since I came on pension and every one has been a real delight from the friendliness and welcome that I was given by all whom I met. I felt entirely at home again. I am hoping to go once more during September 1976 when my old Regiment is planning a Reunion at Wellington in the Nilgiris. One of my daughters returned to India with her husband who builds drilling rigs and drills wells for water in the Hyderabad (Deccan) area—they are temporarily over in the U.S.A., but they hope to be back in India again next year.

With all good wishes,

Yew Close, 25A New St. Wells
Somerset BA5 2le U.K.

Lt.-Col G.A.I. SANDERS
I.A. (Retd.)

THE INDIAN ARMY ON A NUCLEAR BATTLEFIELD

Sir,

I HAVE read Ravi Rikhye's article, 'The Indian Army on a Nuclear Battlefield' in your issue of July-September 1974. It is informative and thought provoking; the only snag is that the writer forgets that the country which has nuclear formations and from where he has borrowed the idea, is maintaining these forces along with conventional formations. It is only a synthesis of the conventional and nuclear which can bring success on a battlefield.

His comments on the present day officer of the Indian Army are uncalled for. In any organisation, at any time, may be 2000 B.C. or 2000 A.D. there will always be some professionals, bureaucrats, the thick-skulls and the play-safers. This phenomenon is not peculiar to the army only, such people are found every-where, i.e. Government, business and industry. Ravi Rikhye is again wrong when he thinks that the army career today is just "pleasant and undemanding". On the contrary an officer, today has to go through more privations, live a hazardous life and go through very very demanding situations even during peace time.

The author's idea that by virtue of a B.Sc. degree a person will collect all that which is necessary to lead men is immature. Character and leadership qualities have nothing to do with academic degrees. In any battlefield it will be the men with these qualities, with or without academic degrees, who will lead the men and win wars.

The author further says 'an officer who makes a wrong decision will be immediately disobeyed by his men. I shudder to think of an army of Ravi Rikhye's conception. I wonder as to who will, in this army, decide what is wrong or a right decision!

Author's remark about a Major's wife without 'the orderly to take the children to school, baby-sit, wash the dishes and do the shopping' are irresponsible. First of all there is only a negligible number of officers who resort to such activities. Secondly the times which the author is looking forward to will itself eliminate such practices. The major will be paid better, there will be public transport to take the children to school and the wife will have a fleet of cars at her disposal for shopping!

Ravi Rikhye says 'only a General might have orderlies and that may be one—a civilian hired for the job'. Even today a General is authorised only one orderly and that also when he is in a field formation. Incidentally the author has not understood as to why an orderly is provided to the officers which includes junior commissioned officers. An orderly is a necessity and not a status symbol. This person relieves the officer from ordinary and mundane duties so that he can concentrate on more important aspects of training during peace time and operations during war.

His observation about the BAs and MAs of United States Army who waited for the next firefight and shot the officer in the back has very aptly shown to the world that how fast such war machine, with all the arsenals of Ravi Rikhye's imagination at their command, crumble in front of a primitive but disciplined army!

5th Battalion Brigade of
The Guards
56 APO

Lt. Col SIRINDER RAJ SINGH

SECRETARY'S NOTES

MEMBERS' ADDRESSES

Copies of the Journal posted to members are sometimes returned undelivered by the Post Office with remarks such as 'the addressee has been transferred.' etc. This appears to be on the increase and the only way to rectify it is for the members to drop a line to the Secretary whenever their addresses change due to promotion, transfer, etc. It is of the utmost importance that the Institution should have the up-to-date addresses of all its members.

ANNUAL SUBSCRIPTION

There are still many members who have not yet paid their subscription which was due on the 1st January. Could I therefore request all members who have not yet paid their subscription, to let me have their remittance by return of post. The revised rate of annual subscription w.e.f. 1 Jan 75 for ordinary members is Rs. 15/- and for subscribers (institutions, units, messes, etc.) is Rs. 40/-. Quotation cheques should invariably include a Bank commission of Rs. 3/50.

NEW MEMBERS

From 1st July 1975 to 30th September 1975, the following members joined the Institution:-

ABBI, Maj H.C.	BASHIR AHMED, Flt Lt S.A.
AFARIA, Capt B.L.	BHATIA, Maj A.K.
AGARWAL, Flt Lt R.C.	BHATIA, Flt Lt S.K.
AHLUWALIA, Capt A.S.	BHOSALE, Maj B.D.
AHLUWALIA, Flt Lt H.S. (Life)	BRAHMT, Maj R.K.
AHLUWALIA, Capt R.S.	CAWASJI, Capt P.
AHLUWALIA, Maj S.S.	CHADHA, Flt Lt S.C.
AJIT, Flt Lt P.	CHADHA, Capt SHIV DEV
ATJARI, Maj H..S.	CHAMPAWAT, Maj B.S.
AZIZ AHMED, Maj	CHANDER SINGH, Capt
BABU, Capt M.M.P.	CHANDRASEKARAN, Sqn Ldr. M.
BADRINARAYAN, Sqn Ldr K.	CHATURVEDI, Sqn Ldr P.C (Life)
BAJAJ, Capt S.C.	CHATURVEDI, Maj S.K.
BAJPAI, Capt A.P.	CHOPRA, Maj S.P.
BALAKRISHNAN, Lt Col V.	CHOUDHARY, Capt S.V.S.
BAL GURDIP SINGH	CHOUDHARY, Flt Lt U.V.S.
BALWANT SINGH, Maj	CHOWDHURI, 2/Lt S.K. (Life)
BANERJEE, Capt S.R.	CHOWDHURY, Flt Lt AMAL ROY

DADWAL, Capt M.S.
DADHWAL, Capt R.S.
DAHIYA, Maj M.S.
DAHIYA, Capt U.S.
DALIP SINGH, Maj
DALJIT SINGH, Maj
DANGI, Flt Lt R.S.
DAS, Sqn Ldr K.P.
DASS, Flt Lt I.
DARSHANE, Flt Lt R.A.
DATAR, Maj M.G.
DATTA, Maj SUBHASH CHANDER
DAULAY, Sqn Ldr S.P.
DHALIWAL, Lt G.S.
DHAMMI, Sqn Ldr I.M.
DHAND, Capt M.L.
DHANOTA, Maj R.S.
DHAWAN, Sqn Ldr A.C.C.
DHAWAN, Flt Lt A.K.
DHILLON, Capt MANJIT SINGH
DHILLON, 2/Lt P.P.
DHILLON, Maj T.S.
DHYANI, Sqn Ldr D.C.
GADKARY, Flt Lt ANIL MORESHWAR
GANGA RAM, Maj
GARCHAR, Maj S.P.S.
GAUTAM, Capt V.C.
GEORGE, Capt S.
GHILDIYAL, Flt Lt RAMESH KUMAR
GILL, Capt H.A.S.
GILL, Capt H.S.
GIRDHARI SINGH, Maj
GOINDI, 2/Lt R.K.
GOPAL, Maj R.
GOPALAKRISHNA, SHRI A.V.
GOVIL, SHRI S.K.
GREWAL, Fg Offr M.S. (Life)
GULIA, Maj S.S.
GUPTA, Flt Lt D.K.
GUPTA, Capt K.K.
GUPTA, Capt P.K.
GUPTA, Capt YOUNGESH
HAKIM, Sqn Ldr J.K.
HARCHARAN SINGH, Maj
HARDHIR SINGH, Maj
HUSSAIN, Flt Lt A.
IQBAL SINGH, Capt
ISSAR, Flt Lt ARUN KUMAR
JAGMAL SINGH, Maj
JAKHALU, Maj S.I.
JAKHER, Flt Lt B.S.
JANAKRAJ, Capt
JASWAL, Maj S.S.
JHANJI, Maj R.C.
JOHN, Maj K.M.
JOSHI, Capt S.V.
KADIAN, Lt S.S.
KALA, Maj B.S.
KALE, Maj S.M.
KANUNGO, Capt J.C.
KARUNANITHI, Maj B.
KHAJURIA, Capt R.N.
KHAN, Sqn Ldr M.
KHANNA, Capt S.L.
KHARAYAT, Maj BHUPENDAR SINGH
KHATARKA, Capt V.G.
KHUTEL, 2/Lt S.S. (LIFE)
KONDALKAR, Maj V.G.
KOPPIKAR, Flt Lt S.A.
KOTTAL, Capt KOSHY
KULDEEP SINGH, Maj
LAL, Maj M.M.
LALVANI, Sqn Ldr M.D.
LAMBA, Sqn Ldr K.R.
MAKASHIR, Flt Lt S.D.
MALAKAR, Maj S.K.
MALHOTRA, Sqn Ldr R.
MALHOTRA, Maj V.P.
MALIK, Maj B.S.
MANI, Capt N.V.S.
MANJIT SINGH, Sqn Ldr
MANKOTIA, Lt A.S.
MARWAHA, Flt Lt A.K.
MATHUR, Maj SATISH CHAND
MISRA, Capt S.P.
MOHINDER SINGH, Capt
MUHAMMED, Capt O.
MUKERJI, Maj D.K.
MUKHERJEE, Capt N.K.
MURTHI, Maj N.S.R.C.

MURTHY, Sqn Ldr P.S.
MUTREJA, Capt S.K.
NAIDU, Flt Lt P.P.K.
NAIR, Capt N.V. SM
NAND DULARE, Maj Vr. C.
NANGIA, Sqn Ldr S.K.
NARENDRA SINGH, Lt Col
NAYAR, Maj D.
OPINDER SINGH, Capt
PADMANABHAN, Sqn Ldr K.
PAHWA, Capt H.C.
PAL, Maj S.K.
PALAT, Flt Lt VIVIAN
PANDEY, Capt T.C.
PARDEEP, Sqn Ldr PAL
PARKASH, Capt V. (LIFE)
PARMEKAR, Flt Lt R.Y.
PARMINDER SINGH, Capt
PATHAK, Lt B.D.
PATHANIA, Capt RAMESH
PAUL, Maj JUDGE
PAUL, Wg Cdr V.K.
PAWAR, Maj P.P.
PRAMOD SINGH, Flt Lt
PRITAM SINGH, Sqn Ldr
PRITHVIPAL SINGH, Sqn Ldr
PTHE, Capt B.S.
RAGHUVANSHI, Maj R.P.S.
RAGHVA, Capt G.R.
RAGHWA, Maj B.S.
RAIZADA, Capt K.
RAMACHANDRAN, Maj J.
RAMACHANDRAN, Capt K.
RAMESH CHANDER, Maj
RAMESH CHANDRA, Flt Lt
RAMGOPAL, Capt
RAM KRISHNA, Maj
RAM NATH RAM, Maj
RANA, Capt HARI SINGH
RAVINDER KUMAR, Capt
RANVIR SINGH, Maj
RAO, Capt B ANAND
RAO, Capt K.R.
RAO, Capt N.R.K.
RAO, Flt Lt S. SRINIVAS

RAO, Flt Lt T.C.S.
ROY, Capt PROMIT
SAHAI, Flt Lt A.K.
SAHI, Maj A.S.
SAIFULLAH, Flt Lt M.S.
SAINI, Maj S.S.
SAITH, Maj R.K.
SALINS, Wg Cdr E.G.
SAMUEL, Capt V.
SANDU, Flt Lt C.Z.
SANDHU, Capt J.S. (LIFE)
SANT, Sqn Ldr D.S.
SANTOKH SINGH, Capt
SATNAM, Capt
SATSANGI, Maj SAHIV DAS
SAXENA, Maj N.
SEN, Flt Lt A.
SENGUPTA, Wg Cdr D.
SETH, Capt P.C.
SETIA, Flt Lt A.K.
SHARMA, Maj A.K.
SHARMA, Maj B.V.
SHARMA, Capt D.S.
SHARMA, Maj G.D.
SHARMA, Flt Lt H.K.
SHARMA, Capt H.O.
SHARMA, Capt R.L.
SHARMA, Capt S.C.
SHARMA, Flt Lt S.K.
SHARMA, Maj V.K.
SHINDE, Maj G.T.
SHISHODIA, Flt Lt H.S.
SHUKLA, Capt R.K.
SHUKLA, Capt S.K.
SINDHU, Flt Lt H.P.S. (LIFE)
SINGH, Capt B.P.
SINGH, Maj C.P.
SINGH, Maj H.P.
SINGH, Maj JASPAL INDER
SINGH, Maj K.P.N.
SINGH, Sqn Ldr K.Y. VSM
SINGH, Capt S.B.
SODHI, Maj J.S.
SONAWANE, Capt V.A.
SRIVASTAVA, Maj C.S.

SRIVASTAVA, Maj R.K.	VAIDYANATHAN, Flt Lt K.
SUCHA SINGH, Capt	VARMA, Maj CHANDRA MOHAN
SUKHPAL SINGH, Maj	VARMA, Sqn Ldr S.K.
SURENDRAN, Sqn Ldr K.	VASHISHT, Maj R.L.
SURJIT SINGH, Maj	VELAYUTHAN, Capt K.
SURJIT SINGH, Capt	VENUGOPAL, Maj N (LIFE)
SURJIT SINGH, Wg Cdr	VENUGOPAL, Maj P.K.
SURJIT SINGH, Sqn Ldr	VERMA, Maj K.K.
TANDON, Maj V.N.	VERMA, Capt M.S.
THAPA, Maj B.M.	VIDYASAGAR, Capt C.S.
THOMAS, Sqn Ldr J.	VINAYAK, Flt Lt B.P.
THOMAS, Capt K.J.	VINAY PAUL, Capt
TIWARY, Maj S.D.	VINOD, Capt D.S.
UPPAL, Capt JAG MOHAN	WARAICH, Maj D.S.
USMAN, Maj M.	YADAV, Flt Lt SURENDRA SINGH
VADDE, Capt H.B.	

MESS INSTITUTIONS

Fourteen officers' mess and institutions were enrolled as subscribing members, during this period.

(Continued from page 327)

Squadrons and No. 602 was the first. Hunt treats the Squadrons in chronological sequence of formation in or transfer to the Auxiliary Air Force and begins the story from 12th September 1925, when the first Squadron the 602 was formed. He brings down the narration till the Air Ministry announces the disbandment of the Auxiliary Squadrons in January 1957. Leslie Hunt traces the remarkable history of the AAF Squadrons from the unit records up to the first disbandings of 1945 and for the subsequent period from newspaper cutting and individual member's notes. Hunt succeeds in recapturing the saga of gallantry, which is now a part of the British history.

Through his brilliant narrative Hunt succeeds in recapturing the saga of gallantry which saved Britain from the fury of Luftwaffe's determined bombers during the days of the war and which in its totality from the days of the inception of the Auxiliary Air force to its disbandment is the very part of Britain's glorious history of aviation.

KST

ADDITIONS TO THE USI LIBRARY

JULY-SEPTEMBER 1975

Author

Title

MILITARY STUDIES

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| Bamfield, Veronica | On the Strength: The Story of the British Army Wife, 1974 |
| Bradford, Zeb B and Brown Frederic J. | The United States Army in Transition. 1973 |
| Bristow, R.C.B. | Memories of the British Raj: A Soldier in India, 1974 |
| Brookes, Kenneth | Battle Thunder: The Story of Britain's Artillery. 1973 |
| Longmate, Norman | The Real Dad's Army: The Story of the Home Guard. 1974. |
| McLeavy, Roy, Camp and ed. | Jane's Surface Skimmers 1974-75. 1974 |
| Mondey, David | Rockets and Missiles. 1971 |
| Moore, John E. ed. | Jane's Fighting Ships 1974-75. 1974 |
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| Windrow, Martin | The Gurkha Rifles. 1974 |

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| Barker, A.J. | Famous Military Battles. 1974 |
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| Sipri | — World Armaments and Disarmament: SIPRI Yearbook 1973. 1973 |
| | Arms Control. 1973 |

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| Bhatia, Krishan | Indira: A Biography of Prime Minister Gandhi. 1974 |
| Chaudhuri, Nirad C. | Scholar Extraordinary: The Life of Professor the Rt Hon Friedrich Max Muller. 1974 |

Hattersley, Roy
 Hillary, Edmund
 Hingley, Ronald
 Macmillan, Harold
 Martin, David
 Vassall, John

Nelson. 1974
 Nothing Venture, Nothing Win. 1975
 Joseph Stalin: Man and Legend. 1974
 At the End of the Day 1961-1963. 1973
 General Amin. 1974
 Vassall: The Autobiography of a Spy.
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 Naidu, M.V.
 Chatterjee, Partha
 Buchan, Alastair

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 Singh, K. Rajendra

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 1974
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Barclay, J.
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REGIONAL STUDIES

EAST ASIA

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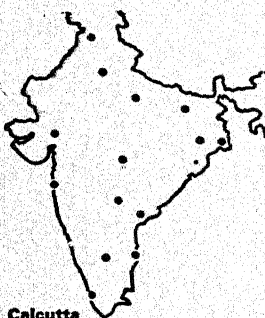
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